International Boundary and Water Commission
United States and Mexico
United States Section

Technical Specifications

Amistad Reservoir and Dam Project
Radial Gate Rehabilitation
Val Verde County, Texas

Solicitation 191BWC26Bxxxx

January 29,2026

International Boundary and Water Commission
United States Section
Amistad Dam Field Office
Del Rio, Texas

These Technical Specifications may be reprinted after Contract award using the awarded Contract number instead of the Solicitation number currently shown. The reprint shall have all changes indicated incorporated.

Reissuance of the awarded Technical Specifications with the Contract number will proceed without an amendment or modification.

Reissuance with the Contract number will NOT result in a new date being displayed on the Technical Specifications.

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International Boundary and Water Commission
United States Section

TECHNICAL SPECIFICATIONS
DIVISION 00
PROCUREMENT AND CONTRACTING REQUIREMENTS

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SECTION 00.01.10
TABLE OF CONTENTS GOVERNING

DIVISIONS AND SECTIONS

Division 00-Procurement and Contracting Requirements
00.01.10-Table of Contents Governing
00.21.13-Instructions to Bidders
00.31.19-Existing Condition Information *******
00.31.24-Environmental Information
00.31.26-Existing Hazardous Material Information
00.31.43-Permit Application
00.60.00-USIBWC Forms and Standard Documents
00.70.00-Delivery of Data to USIBWC
00.70.13-Project Data
00.72.00-Order of Precedence
00.73.63-Security Requirements *********
00.73.73-Requirements for Sensitive But Unclassified
00.91.16-Bid Revisions

Division 01-General Requirements
01.11.00-Summary of Work
01.20.00-Measurement and Payment
01.29.00-Payment Procedures
01.29.15-Certified Payroll
01.31.00-Project Coordination
01.32.16-Construction Progress Schedule
01.32.33-Photographic Documentation
01.33.00-Submittal Procedures
01.35.23-Safety
01.42.00-References
01.43.26-Testing and Inspection Agencies
01.45.00-Quality Control
01.51.00-Temporary Utilities
01.52.13-Field Offices and Sheds
01.55.26-Traffic Control and Project Signage
01.57.00-Temporary Controls for Work Areas
01.57.19-Temporary Environmental Controls
01.61.00-Common Product Requirements
01.61.16-Use of Recovered Materials and Biobased Products
01.71.13-Mobilization
01.74.19-Construction Waste Management and Disposal
01.77.19-Closeout Requirements
01.78.36-Warranties *******
01.78.39-Record Drawings

Division 02-Existing Conditions
02.01.00-Existing Conditions and Facilities
02.26.26-Lead Assessment
02.83.00-Lead Remediation and Disposal

Division 05-Metal
05.05.23-Welding
05.50.03-Miscellaneous Metalwork

Division 09-Finishes
09.97.02-Painting Hydraulic Structures

Division 35-Waterway Construction
35.22.46-Tainter Gates *********

Technical Specification Tables

Table 1 - Technical Specification Reference Protocols

Table 2 - Amistad Dam and Radial Gate Drawings

Table 3 - Required Minimum Biobased Content

Table 4 - Warranty Priority Code B

Table 5 - Warranty Priority Code C

Table 6 - V-102E

Table 7 - VZ-108D

Table 8 - V-766E

Table 9 - System No 3

Table 10 - System No 3-A-Z

Table 11 - Vinyl Paint Thinners

Table 12 - Neoprene Gate Seals

Table 13 - Current Specification Standards

Technical Specification Figures

Figure 1 - Fillable Form (not printed)

Figure 2 - Printed Fillable Form

Figure 3 - Downstream face of Amistad Dam

--End of Section--

SECTION 00.21.13
INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Reference Standards 1
1.3. Measurement and Payment 1
1.4. Definitions 1
1.5. Technical Specification Reference Protocols 1
1.6. Duty to Inquire 1
1.7. Investigation of Site Conditions 2
1.8. Bid Items 3
1.9. Specifications 3
1.10. Bid Submission 3
Part 2 - Execution 4
2.1. Requests for Interpretation (Duty to Inquire) 4
--End of Section-- 4

1.2. REFERENCE STANDARDS

1.2.A. Federal Acquisition Regulation (FAR)

1. FAR 52.236-3, Site Investigation and Conditions Affecting the Work

1.3. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.4. DEFINITIONS

1.4.A. Within this Section, the following terms are used interchangeably.

1.	Bid	-	Offer	-	Proposal
2.	Solicitation	-	Request for Proposal	-	RFP
3.	Bidder	-	Offeror	-	Contractor

1.5. TECHNICAL SPECIFICATION REFERENCE PROTOCOLS

1.5.A. Use the reference protocols in Table 1 to refer to items within Technical Specifications.

1.5.B. Every Section has three Parts with multiple paragraphs. Always include the section number with the full paragraph number when referencing any item within these Technical Specifications.

1. For example, the proper reference to this paragraph is Section 00.21.13 Paragraph 1.5.B.1.

1.6. DUTY TO INQUIRE

1.6.A. Bidders shall review the full Solicitation and all Contract documents including, but not limited to, Technical Specifications, Contract Drawings, USIBWC provided data, referenced items, attachments, etc. to determine the full scope of work required.

Table 1 - Technical Specification Reference Protocols

	Level	Type	Example	Format	Reference Format
Division	1	Numeric	35	Level 1	Division 35
Section	2	Numeric	35.41.00	Level 1.Level 2	Section 35.41.00
Part	3	Numeric	Part 3	Part Level 3	Section 35.41.00 Part 3
Subsection	4	Numeric	3.7.	Level 3.Level 4.	Section 35.41.00 3.7.
Paragraph	5	Alphabet	3.7.E.	Level 3.Level 4.Level 5.	Section 35.41.00 3.7.E.
Paragraph Subitem	6	Numeric	2.	Level 6	Section 35.41.00 3.7.E.2.
Paragraph Subitem	7	Alphabet	h.	Level 7	Section 35.41.00 3.7.E.2.h.
Paragraph Subitem	8	Numeric	(1)	Level 8	Section 35.41.00 3.7.E.2.h.(1)
Paragraph Subitem	9	Alphabet	(b)	Level 9	Section 35.41.00 3.7.E.2.h.(1)(b)

1.6.B. If during review of these items, the Bidder finds discrepancies, omissions, conflicts, defects, errors, or ambiguities, they have a duty to inquire. The Bidder shall also inquire about items that are open to interpretation.

1.6.C. The Bidder shall inquire about items as soon as they are discovered, whether before deadline for submission of bidder questions, whether after deadline for submission of bidder questions, whether after submission of bids, or whether after Contract award.

1.6.D. If the Bidder fails to inquire, they forfeit their right to any claim based upon said discrepancies, omissions, conflicts, defects, errors, ambiguities, or items that are open to interpretation. The Bidder shall be proceeding at their own risk based upon only their unilateral interpretation.

1.6.E. The Bidder shall take no advantage of any item of which they have a duty to inquire.

1.7. INVESTIGATION OF SITE CONDITIONS

1.7.A. The Bidder, as well as their subcontractors, is urged to visit the worksite and project area to become fully aware as to the existing conditions affecting the work to be performed under the Contract documents. A site visit will be announced during the solicitation. Each Bidder shall attend at their own expense. The Government will not pay for any site visits. This visit is intended to provide the potential Bidders the opportunity to observe site conditions and incorporate into their proposal any required work based on site conditions. The Bidder will have the opportunity to walk around during the site visit. Unless otherwise noted, no other opportunity will exist for visits to the site.

1.7.B. The Bidder shall be responsible for ensuring that all of its suppliers, manufactures and subcontractors have reviewed all applicable Contract documents relative to their work. The Bidder shall provide all labor, material, equipment, and services not provided by the Bidder's suppliers, manufacturers, fabricators, and/or subcontractors but required for complete and operable facilities as described in the Contract documents.

1.7.C. Bidder has the sole responsibility to make such independent investigation and examination as they deem necessary in order to satisfy themselves as to the conditions to be encountered in the performance of work and the quantities required to complete the work in accordance with the SOW.

1.7.D. The Government assumes no responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of the Bidder's officers or agents before the execution of this Contract, unless that understanding, or representation is expressly stated in the Contract documents.

1.7.E. Any failure of the Bidder to take the actions described and acknowledged in this Section will not relieve the Bidder from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work.

1.8. BID ITEMS

1.8.A. The Contract Line Item Numbers (CLIN) that shall be bid upon are identified in Section B (bid schedule) of the Solicitation.

1.8.B. The Bidder shall include all work related costs within its bid unit prices even if not specifically listed in the bid schedule.

1.8.C. If an error exists on the bid schedule between the CLIN total cost provided and the resultant value of the CLIN quantity multiplied by the bid unit price, the bid unit price provided shall govern.

1.8.D. If the bid schedule includes CLINs entitled Receiving Lines, No Cost Receiving Lines, No Cost Receiving Lines for IBWC Use Only, Receiving Lines for Internal Use Only, or similarly, then the Bidder shall not provide a bid price for this CLIN. Receiving lines are used for USIBWC's computer system to make pay estimate processing easier. These are an administrative CLIN and have no value on the Contract.

1.9. SPECIFICATIONS

1.9.A. The Government does not implicitly warrant performance specifications for complete accuracy or adequacy. Typical performance type specifications set forth an objective or standard to be achieved, and the successful Bidder is expected to exercise their ingenuity in achieving that objective or standard of performance, selecting the means and assuming a corresponding responsibility for that selection.

1.9.B. When a particular product or manufacturer is identified by name, but permits substitution of ‘an approved equal,’ such a specification is ‘performance’ in nature and, as a result, carries no implied warranty.

1.9.C. The Technical Specifications are written in imperative and abbreviated form. This imperative language is directed at the Contractor, unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall", "the Contractor shall", and "shall be" or similar mandatory phrases by inference in the same manner as they are applied to notes on the Contract Drawings. The words "shall" are to be placed by inference where a colon (:) is used within sentences or phrases. Except as worded to the contrary, the Contractor shall fulfill (perform) all indicated requirements whether stated imperatively or otherwise.

1.9.D. All equipment and facilities shall be furnished, installed, and constructed by the Contractor to provide the Government with complete, ready to use components, systems, and facilities. All necessary materials and work required to accomplish this are the responsibility of the Contractor alone, whether or not specifically indicated on the Contract Drawings or stated in the Technical Specifications.

1.9.E. The various Sections of the Technical Specifications may contain references to standards, other specification sections, or items that do not apply to the work covered in this project. These references are to be considered for information only and can be ignored by the Contractor unless work changes and they become relevant. If conflicts arise from references or lack of references to standards or other specification sections, COR will determine the relevancy of the apparent conflicts.

1.10. BID SUBMISSION

1.10.A. Submission of a bid shall be conclusive evidence that the Bidder has reviewed, investigated, and acknowledged all items detailed in FAR 52.236-3 and listed below.

1. Conditions bearing upon transportation, disposal, handling, and storage of materials.
2. The availability of labor, water, electric power, and roads.
3. Uncertainties of weather and similar physical conditions at the site.
4. The conformation and conditions of the ground.
5. The security and safety conditions at and around the site.
6. The character of equipment and facilities needed preliminary to and during work performance.

1.10.B. Submission of a bid shall be conclusive evidence that the Bidder has reviewed all Contract documents.

1.10.C. Submission of a bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, the character, quality, and scope of work to be performed, and the quantities of materials to be furnished.

1.10.D. Submission of a bid constitutes agreement that Bidder has provided written notice of all discrepancies, omissions, conflicts, defects, errors, ambiguities, or items that are open to interpretation discovered in the Contract documents, that responses to these written notices are acceptable to Bidder, and that Contract documents are sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing required work.

1.10.E. Bidder has the sole responsibility to make such independent instigation and examination as they deem necessary in order to satisfy themselves as to the conditions to be encountered in the performance of work and the quantities required to complete the work in a accordance with the Contract documents. The Government will not award a modification or additional funds for conditions that were observable but not considered by Bidder.

PART 2 - EXECUTION

2.1. REQUESTS FOR INTERPRETATION (DUTY TO INQUIRE)

2.1.A. Bidders shall submit requests for interpretation, questions, and other concerns about the Solicitation and Contract documents including, but not limited to, Technical Specifications, Contract Drawings, USIBWC provided data, referenced items, attachments, etc. to the Contracting Officer identified on SF-1442.

2.1.B. Such requests shall be made even if the question-and-answer period identified in the Solicitation has passed.

2.1.C. Failure to request interpretation prior to providing a bid shall result in the Bidder being fully responsible for any cost or time impacts involved to perform the work required.

--End of Section--

SECTION 00.31.19
EXISTING CONDITION INFORMATION *******

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Measurement and Payment 1
1.4. General 1
1.5. Existing Structures 3
Part 2 - Products ..... **Error! Bookmark not defined.**
Part 3 - Execution ..... **Error! Bookmark not defined.**
--End of Section-- 3

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.73.73-Requirements for Sensitive But Unclassified

1.3. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.4. GENERAL

1.4.A. A report on the bridge deck and limitation to using a crane was performed by US Army Corps of Engineers (USACE). The findings were and available in a report, entitled "*Amistad Dam Project Del Rio, Texas, Structural Analysis of Bridge Deck for International Boundary and Water Commission*," dated January 2006.

1.4.B. The original construction specifications: Volume I and Volume II of the "*Specifications for Construction Allocated to United States, Embankment, Non-Overflow, Power Intake, and Spillway*," for solicitation UDA 65-3 dated August 1964.

1.4.C. Applicable original construction drawings are listed in Table 2.

1.4.D. The original "*Amistad Dam, Rio Grande, Operation & Maintenance Manual*," dated 1971 includes operations of the penstock and irrigation gates.

1.4.E. SBU items will be provided via a SharePoint link to Bidder after completion of a nondisclosure agreement (IBWC Form 358). See Section 00.73.73 for guidance on SBU data.

1. No more than 2 SharePoint links will be provided to each Bidder. To use SharePoint, a user must have a valid Microsoft account.
2. All unsuccessful Bidders shall provide IBWC Form 358A to the CO within 7 days of being notified of their unsuccessful offer.

Table 2 - Amistad Dam and Radial Gate Drawings

IBWC Dwg#	Description	Date (YYYY-MM-DD)
18061-000-00	Amistad Dam Spillway-Overflow Monoliths Elevations and Details	1964-08
18061-000-01	Amistad Dam Spillway-Overflow Monoliths Elevations and Details Revision #1	1964-09-30
18062-000-00	Amistad Dam Spillway-Overflow Monoliths Pier and Weir Geometry	1964-08
18063-000-00	Amistad Dam Spillway-Overflow Monoliths Typical Pier Plan Elevations and Sections	1964-08
18063-000-02	Amistad Dam Spillway-Overflow Monoliths Typical Pier Plan Elevations and Sections Rev#2	1964-10-08
18107-000-00	Amistad Dam Spillway-Bridge Typical Span Plans and Elevations	1964-08
18108-000-00	Amistad Dam Spillway-Bridge Typical Span Sections and Details	1964-08
18178-000-00	Amistad Dam Spillway-Tainter Gates General Arrangement	1964-08
18179-000-00	Amistad Dam Spillway-Tainter Gates Elevations and Sections	1964-08
18180-000-00	Amistad Dam Spillway-Tainter Gates Girders Sections and Details I	1964-08
18181-000-00	Amistad Dam Spillway-Tainter Gates Girders Sections and Details II	1964-08
18181-000-01	Amistad Dam Spillway-Tainter Gates Girders Sections and Details II Revision #1	1964-10-23
18182-000-00	Amistad Dam Spillway-Tainter Gates Bracing Details I	1964-08
18183-000-00	Amistad Dam Spillway-Tainter Gates Bracing Details II	1964-08
18184-000-00	Amistad Dam Spillway-Tainter Gates Strut Bracing and Hub Details	1964-08
18184-000-01	Amistad Dam Spillway-Tainter Gates Strut Bracing and Hub Details Revision #1	1964-10-12
18185-000-00	Amistad Dam Spillway-Tainter Gates Trunnion Yoke and Pin Details	1964-08
18185-000-01	Amistad Dam Spillway-Tainter Gates Trunnion Yoke and Pin Details Revision #1	1964-10-12
18186-000-00	Amistad Dam Spillway-Tainter Gates Anchorage Assembly Box Girder Details I	1964-08
18187-000-00	Amistad Dam Spillway-Tainter Gates Anchorage Assembly Box Girder Details II	1964-08
18187-000-01	Amistad Dam Spillway-Tainter Gates Anchorage Assembly Box Girder Details II Revision #1	1964-10-23
18188-000-00	Amistad Dam Spillway-Tainter Gates Anchorage Assembly Details	1964-08
18188-000-01	Amistad Dam Spillway-Tainter Gates Anchorage Assembly Details Revision #1	1964-10-23
18189-000-00	Amistad Dam Spillway-Tainter Gates Side Seal Details	1964-08
18189-000-01	Amistad Dam Spillway-Tainter Gates Side Seal Details Revision #1	1964-10-08
18190-000-00	Amistad Dam Spillway-Tainter Gates Sill Beam Details	1964-08
18190-000-01	Amistad Dam Spillway-Tainter Gates Sill Beam Details Revision #1	1964-10-08
18191-000-00	Amistad Dam Spillway-Tainter Gates Machinery Layout General Arrangement	1964-08
18192-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Layout Details I	1964-08
18193-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Layout Details II	1964-08
18194-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Layout Details III	1964-08
18195-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Layout Details IV	1964-08
18196-000-00	Amistad Dam Spillway-Tainter Gates Hoist Drum Details	1964-08
18196-000-01	Amistad Dam Spillway-Tainter Gates Hoist Drum Details Revision #1	1964-10-23
18197-000-00	Amistad Dam Spillway-Tainter Gates Bull Gear Guard Details	1964-08
18198-000-00	Amistad Dam Spillway-Tainter Gates Hoist Cable Hitch Details	1964-08
18198-000-02	Amistad Dam Spillway-Tainter Gates Hoist Cable Hitch Details Revision #2	1964-10-23
18198-000-03	Amistad Dam Spillway-Tainter Gates Hoist Cable Hitch Details Revision #3	1965-06
18199-000-00	Amistad Dam Spillway-Tainter Gates Measuring Device General Arrangement	1964-08
18200-000-00	Amistad Dam Spillway-Tainter Gates Measuring Device Details I	1964-08
18201-000-00	Amistad Dam Spillway-Tainter Gates Measuring Device Details II	1964-08
18202-000-00	Amistad Dam Spillway-Tainter Gates Measuring Device Details III	1964-08
18203-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Bases Details I	1964-08
18204-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Bases Details II	1964-08
18205-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Bases Details III	1964-08
18206-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Bases Details IV	1964-08
18207-000-00	Amistad Dam Spillway-Tainter Gates Hoist Machinery Bases Details V	1964-08
18208-000-00	Amistad Dam Spillway-Tainter Gates Platforms Plans and Details	1964-08
18209-000-00	Amistad Dam Spillway-Tainter Gates Platforms Details	1964-08

IBWC Dwg#	Description	Date (YYYY-MM-DD)
18210-000-00	Amistad Dam Spillway-Tainter Gates Electric Pull Box Details	1964-08
18304-000-00	Amistad Dam Tainter Gates Cathodic Protection	1964-08

1.5. EXISTING STRUCTURES

1.5.A. Amistad Dam is the largest of the international multipurpose storage dams to be constructed on the Rio Grande by the United States and Mexico, in accordance with the 1944 Water Treaty between the two countries. The dam is operated and maintained jointly by the United States and Mexican Sections of the IBWC. Amistad Dam provides important flood control, water conservation, recreation, and electrical power production benefits. The Amistad Reservoir and Dam Project is located in Val Verde County, Texas and the State of Coahuila, Mexico, with the dam approximately 12.8 miles northwest of Del Rio, TX. Construction started on December 1964 and was completed in June 1969.

1.5.B. Amistad Dam has sixteen tainter (radial) gates. Gates 1 through 8 are owned and operated by the United States Section of IBWC (USIBWC) and gates 9 through 16 are owned and operated by the Mexican Section of IBWC. Each gate is approximately 55 feet high and 50 feet wide from pier to pier. Each gate is made up of a skin plate supported by three horizontal plate girders; the bottom and middle girder are 7.875 feet deep, and the top girder is 4.9 feet deep. The girders support thirty-five WT ribs, connecting to three struts. The girders and struts are braced with intermediate cross members. The struts merge at the trunnion hub, which bear against steel box girders secured with prestressed anchors in the reinforced concrete piers. The gate radius is 52 feet measured from the center line of trunnions to the downstream face of the plate. Rubber seals are provided for the full height of the gate. The rubber J type side seals bear on corrosion resisting steel side plates. The bottom rubber J type seal is bolted to the bottom edge of the gate. The gates are fabricated from low alloy steel conforming to ASTM A-441except for bracing which is ASTM A-36 steel. The gates utilize cable and hoist units mounted on top of the piers for operation.

1.5.C. A complete hoist, to operate each tainter gate consists of a right hand and a left-hand unit mounted on adjacent piers with the drive shaft connecting the two and spanning from pier-to- pier across the gate. Hoists are mounted on top of piers at elevation 1153.0 with centerline of cable drum 33'-11 1/8" downstream from the axis of dam. Each hoist unit is designed for a cable pull of 120,900 pounds and operates the gate at 3/4-feet per minute for a distance of 48.7 feet. A Westinghouse 10 HP, 440 volt, 60 cycle, 1200 RPM motor provides the required power for operating each hoist unit. Speed reduction beginning at motor is accomplished by: a 12.5:1 Winsmith Series CB reducer with single output shaft, a 149.9:1 Lufkin type T T290H; and a 6.85:1 reduction at cable drum. A Cutler Hammer traveling nut type limit switch is provided for stopping the tainter gate at the various control levels. Braking is accomplished by means of a Westinghouse type TM magnetic brake enclosed in a weatherproof housing and rated at 75-foot pounds torque. An indicator dial which indicates the position of the gate at any instant is driven by a Winsmith Series CB reducer, Unit #1, ratio 10:1.

1.5.D. Existing gates have been in service for more than 55 years, and equipment needs to be maintenance due to malfunctions and safety issues. This equipment is very important to daily dam operations on the Amistad Dam. During the last 5 year inspection performed by the USACE Corp of Engineers there were a couple of findings. Findings included hoist wire rope tension adjustment, gate seal replacements and loose fasteners, trunnion friction, damaged grease lines and needed gate painting.

1.5.E. Without any upgrade for the last 20 years current gate deficiencies are affecting Amistad Dam daily operations. Not performing the necessary maintenance and replacements of the radial gates will affect flood operations and represent a safety hazard for all downstream communities

--End of Section--

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SECTION 00.31.24
ENVIRONMENTAL INFORMATION

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Measurement and Payment 1
1.5. General 1
1.6. Preservation of Cultural and Natural Resources and the Environment 1
1.7. Other Considerations 2
1.8. NEPA Documentation 2
--End of Section-- 2

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.57.00-Temporary Controls for Work Areas

1.2.B. Section 01.57.19-Temporary Environmental Controls

1.3. REFERENCE STANDARDS

1.3.A. United States Code (USC)

1. Clean Air Act, 42 USC 7401 et seq.
2. Clean Water Act (CWA), 33 USC 1251 et seq.
3. Endangered Species Act (ESA), 16 USC 1531 et seq.
4. Migratory Bird Treaty Act (MBTA), 16 USC 703 - 712
5. National Environmental Policy Act (NEPA), 42 USC 4321-4347
6. National Historic Preservation Act (NHPA), 54 USC 300101 et seq.
7. National Wildlife Refuge System Improvement Act of 1997, 16 USC 668dd
8. Native American Graves Protection and Repatriation Act (NAGPRA), 25 USC 3001 et. seq.
9. Refuge Recreation Act, 16 USC 460k - 460k-4

1.4. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.5. GENERAL

Further details of environmental requirements are in Sections 01.57.00 and 01.57.19.

1.6. PRESERVATION OF CULTURAL AND NATURAL RESOURCES AND THE ENVIRONMENT

1.6.A. If the Contractor initiates change 6to the Contract and USIBWC approves the changes, the Contractor is responsible for obtaining clearances and coordinating with the appropriate regulatory agencies.

1.6.B. Culturally Sensitive Areas

If a site, building, or location of historical, archaeological, educational, or scientific interest is discovered within the right of way, cease all work immediately, secure the site from further disturbance and possible vandalism, and notify USIBWC. The site, building, or location will be investigated and evaluated by USIBWC.

1.7. OTHER CONSIDERATIONS

The Contractor is required to ensure that all Environmental Permits, Issues, and Comments (EPIC), which are included within the Contract documents are followed and implemented to ensure potential impacts are avoided.

1.8. NEPA DOCUMENTATION

The USIBWC shall complete appropriate NEPA documentation prior to the construction of the project. The USIBWC will be responsible for compliance with National Environmental Policy Act (NEPA).

--End of Section--

SECTION 00.31.26
EXISTING HAZARDOUS MATERIAL INFORMATION

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Measurement and Payment 1
1.3. General 1
--End of Section-- 1

1.2. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.3. GENERAL

1.3.A. USIBWC has a reasonable belief that lead-based paint exists on the tainter gates.

1.3.B. There have been 3 lead surveys at Amistad Dam, but none of them tested the tainter gates.

1. "*Amistad Dam Asbestos and Lead-Based Paint Survey*," by CH2M Hill dated December 7, 2004.
2. "*Asbestos& Lead-Based Paint Survey Report, USIBWC Amistad Power Plant and Warehouse, Del Rio, Texas*," by TRC dated May 31, 2012.
3. "*Asbestos& Lead-Based Paint Survey Report, USIBWC Amistad Dam Facility, 670 Texas Spur 349*," by TRC dated March 19, 2014.

1.3.C. The "*Specifications for Construction Allocated to United States, Embankment, Non-Overflow, Power Intake, and Spillway*," indicate in Section 22 Paragraph 22-15 states that red-lead paint was used in the original construction. USIBWC does not know if this paint was ever removed or if additional coats of lead-based paint were applied to the gates.

--End of Section--

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SECTION 00.31.43
PERMIT APPLICATION

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Reference Standards 1
1.3. Measurement and Payment 1
1.4. General 1
1.5. Work in Waters of the United States 1
1.6. Responsibilities 1
--End of Section-- 2

1.2. REFERENCE STANDARDS

Texas Commission on Environmental Quality (TCEQ)

1. Texas Pollutant Discharge Elimination System (TPDES)
2. TPDES 2018 Construction General Permit TXR150000 dated January 28, 2022

1.2.B. US Army Corps of Engineers (USACE)

1. Section 404 of Clean Water Act, 33 USC 1251 et seq.

1.3. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.4. GENERAL

Prior to the beginning of construction, the Contractor shall be responsible for researching, coordinating, obtaining, and paying all applicable fees for all permits required by Federal, state, and local entities, including, but not limited to, a specific or general stormwater permit prepared in accordance with the requirements of Stormwater Pollution Prevention Plan (SWPPP) and Texas Pollutant Discharge Elimination System (TPDES) 2018 General Permit TXR150000.

1.5. WORK IN WATERS OF THE UNITED STATES

1.5.A. The Contractor must adhere to all agreements, mitigation plans, and standard best management practices required by this permit.

1.5.B. If Contractor initiated changes in the construction method result in impacts to waters of the US, the Contractor shall have sole responsibility to obtain all required new or revised Section 404 permit and shall adhere to all agreements, mitigation plans, and standard best management practices required by these permits.

1.6. RESPONSIBILITIES

1.6.A. The Contractor shall be responsible for providing the proposed location of the project staging areas for compliance confirmation of the COR prior to installation of stormwater pollution prevention (SWPP) measures.

1.6.B. The Federal Government is not subject to local jurisdictions' building codes, nor is it required to obtain building permits from local jurisdictions for construction on real estate owned or controlled by the USIBWC. However, borrow pits and other offsite locations are subject to local regulations. The Contractor is responsible for researching and obtaining all necessary permits for offsite work.

1.6.C. The Contractor shall be responsible for obtaining all necessary permits and rights of entry for all work required under this Contract.

The Contractor will also be required to research the need for any other required permits, based on the information available from the Contract Drawings and Technical Specifications prior to the beginning of construction. For the work under this Contract, the Contractor shall be responsible for coordinating and obtaining all permits required by Federal, state, and local entities, unless otherwise specified within the Contract Provisions and these Technical Specifications.

1.6.D. The Contractor shall apply and pay for all required permits. The Government is not responsible for any existing or newly introduced permits required before, during and/or after construction.

1.6.E. The Contractor shall be responsible for and shall give and maintain any and all notices required by applicable regulations, laws, or permitting authorities pertaining to construction of this project.

--End of Section--

SECTION 00.60.00
USIBWC FORMS AND STANDARD DOCUMENTS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Measurement and Payment 1
1.3. General 1
1.4. Forms 1
1.5. Using PDF Forms 2
1.6. Printing 3
--End of Section-- 3

1.2. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.3. GENERAL

1.3.A. Standard items are available at USIBWC's website at www.ibwc.gov/resources-info/.

1. All forms are under the link entitled USIBWC Construction Forms.
2. Posters are under the link entitled Construction Contractor Posters.
3. Drawing standards and related files are under the link entitled USIBWC's Standard Drawings, CAD files, and Drawing and CAD Standards.

1.3.B. Contractor shall use the most current version of each form.

1.3.C. Form filenames contain a date. This date is the revision date of the form. Keeping the date in the filename can cause confusion when submitting files. Prior to submitting the forms, rename the file as suggested in these Technical Specifications or as agreed to with the COR.

1.4. FORMS

1.4.A. The following USIBWC forms shall be used:

1. Form 119 Pay Estimate-Construction
2. Form 119B Pay Estimate Breakdown
3. Form 146 Transmittal Form
4. Form 147 Submittal Register
5. Form 148 Log of Photographic Documentation
6. Form 149 Schedule Analysis
7. Form 150 Log of Deficiencies/Punch List
8. Form 152 Pay Item Breakdown
9. Form 153 Monthly Exposure & First Aid Report
10. Form 154 Subcontractor's Payment Breakdown
11. Form 161 Actual Weather and Working Conditions Report

12. Form 162 Record of Preparatory Phase Meeting
13. Form 163 Daily Construction Quality Control Report
14. Form 163A Equipment Mobilization/Demobilization
15. Form 164A Activity Hazard Analysis
16. Form 166 Record of Initial Phase Meeting
17. Form 207 Use of AutoCad Files
18. Form 225 Use of USIBWC Key
19. Form 227 Wage Deduction Authorization
20. Form 231 Truck Owner-Operator Certification of Ownership
21. Form 232 Owner-Operator Payroll Listing
22. Form 233 Request for Information
23. Form 233A Request for Information Log
24. Form 235 Concrete Test Results Summary
25. Form 237 Nuclear Gauge Test Results
    a. The COR may allow the use of the laboratory's form if ALL of the information contained on Form 237 is included.
26. Form 238 Concrete Placement Card
27. Form 239 Schedule of Materials
28. Form 240 Nuclear Gauge Moisture Calibration
29. Form 241 Nuclear Gauge Standard Count
30. Form 243 Release of Claims
31. Form 253 Construction Closeout Checklist
32. Form 255 Certificate of Substantial Completion
33. Form 358 Nondisclosure Agreement
34. Form 358A Nondisclosure Agreement Release
35. Form 359 Hand Receipt

1.4.B. The following forms are available for use, but are not required:

1. Form 119A Contractor Pay Estimate Inventory
2. Form 164 Weekly Toolbox Safety Meeting
3. Form 204 Use of USIBWC Logo
4. Form 226 Statement of Labor Compliance
5. Form 228 Nonperformance Payroll Report
6. Form 264 Safety Inspection Mechanized Equipment
7. Form 265 Safety Inspection for Cranes
8. Form 266 Safety Inspection for On Highway Vehicle

1.5. USING PDF FORMS

1.5.A. Providing Fillable Forms to USIBWC

1. Fillable forms shall be "printed" prior to sending to USIBWC. Printing a fillable form to pdf fixes the form data permanently so it cannot be changed. It also allows the merging of multiple pdf files without compromising form data. See Figure 1 and Figure 2 as examples.

a. Printing resolution shall not be less than 400 dpi. 1200 dpi is preferred and easily handled by Adobe Acrobat.

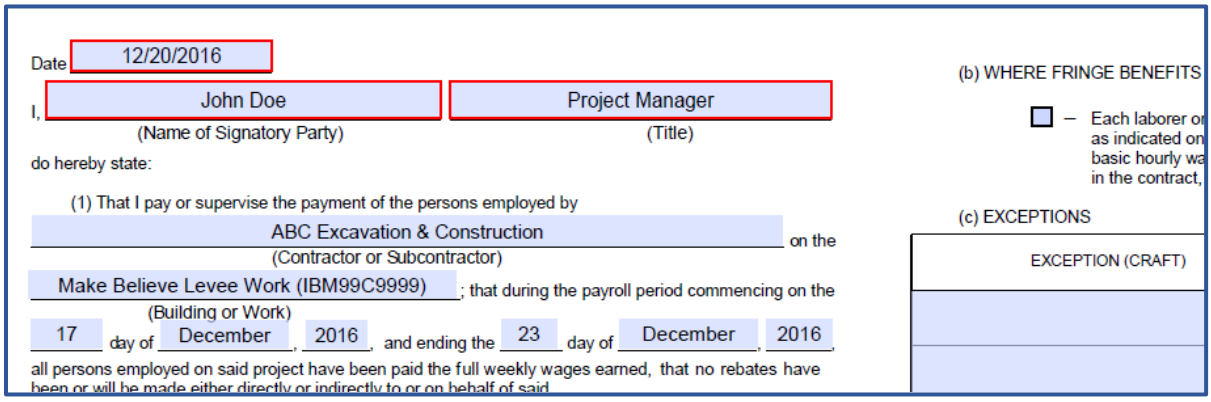
Date 12/20/2016
I, John Doe (Name of Signatory Party) Project Manager (Title)
do hereby state:
(1) That I pay or supervise the payment of the persons employed by
ABC Excavation & Construction (Contractor or Subcontractor) on the
Make Believe Levee Work (IBM99C9999) (Building or Work); that during the payroll period commencing on the
17 day of December, 2016, and ending the 23 day of December, 2016,
all persons employed on said project have been paid the full weekly wages earned, that no rebates have
(b) WHERE FRINGE BENEFITS
– Each laborer or
as indicated on
basic hourly wa
in the contract,
(c) EXCEPTIONS
EXCEPTION (CRAFT)

Figure 1 - Fillable Form (not printed)

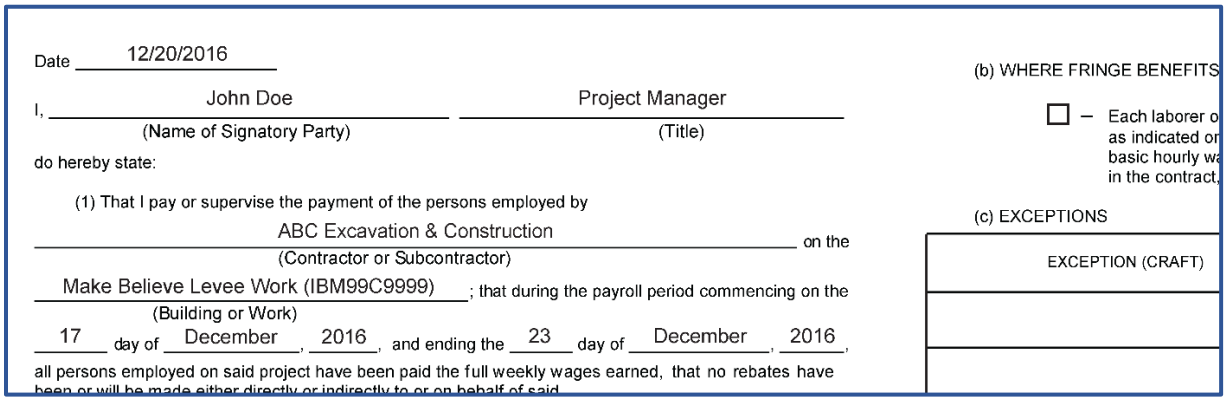
Date 12/20/2016
I, John Doe (Name of Signatory Party) Project Manager (Title)
do hereby state:
(1) That I pay or supervise the payment of the persons employed by
ABC Excavation & Construction (Contractor or Subcontractor) on the
Make Believe Levee Work (IBM99C9999) (Building or Work); that during the payroll period commencing on the
17 day of December, 2016, and ending the 23 day of December, 2016,
all persons employed on said project have been paid the full weekly wages earned, that no rebates have
(b) WHERE FRINGE BENEFITS
– Each laborer o
as indicated on
basic hourly wa
in the contract,
(c) EXCEPTIONS
EXCEPTION (CRAFT)

Figure 2 - Printed Fillable Form

1.5.B. Providing Adobe Electronic Signatures to USIBWC
Whenever an Adobe digital signature is used, ensure that the file is printed to pdf afterwards. This ensures that the digital signature is locked and cannot change but is also allows the resulting file to be combined without pdf files without errors.

1.5.C. Unless otherwise allowed by the COR or this Section, the electronic version all forms shall be used. This means that forms shall not be printed and then filled out by hand. Instead, they shall be filled out electronically and then printed to pdf.

1.5.D. The following forms are allowed to be filled out by hand: 162, 164, 166, 227, 231, 237, 238, 358, and 359. Once completed by hand, they shall be scanned at no less than 400 dpi resolution and provided to USIBWC in a pdf document.

1.6. PRINTING

The Contractor is responsible for printing copies of items provided in electronic format for their own use.

--End of Section--

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SECTION 00.70.00
DELIVERY OF DATA TO USIBWC

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Measurement and Payment 1
1.5. General 1
1.6. Adobe PDF Files 2
1.7. Image Files 3
--End of Section-- 3

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.32.33-Photographic Documentation

1.3. REFERENCE STANDARDS

1.3.A. Federal Risk and Authorization Management Program (FedRAMP)

1.4. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.5. GENERAL

1.5.A. USIBWC will perform most document transfer communications via email.

1.5.B. The Contractor shall send all files electronically via email whenever possible. USIBWC's email system can accept files up to 20 MB. Large files shall be transferred via online cloud servers or SharePoint.

1. Online cloud servers shall be FedRAMP compliant.
2. Files transferred through a download link via email will be treated the same as receiving the file via email.
3. Files made available via download shall be grouped in folders or zipped to allow for easy download of a large group of files at one time. However, no zipped file or folder shall exceed 500 MB in size.

1.5.C. USIBWC cannot accept USB thumb drives, CD/DVD, and portable hard drives unless the COR allows their use for transfer of final closeout items. Any drives thus provided to the Government become US Government property.

1.5.D. Placing documents on an online management system (e.g. Owner Insite or ProjectWise) is unacceptable as a delivery method.

1.5.E. Direct delivery via drop off, US Postal Service, FedEx, UPS, etc. is acceptable.

1. No delivered boxes shall exceed 40 pounds.

1.5.F. Items are considered received when provided to USIBWC prior to 4:00 pm on a business day (COR's local time zone). Items received after 4:00 pm, or received on a non-business day, will be marked as being received on the next business day.

1.5.G. During the last 2 weeks of the calendar year (i.e. December 16 through December 31), Contractor should expect longer than usual review times. Submittal reviews, RFI responses, answers to questions, and requests for meetings may not be accommodated during this time period. Contractor shall properly plan the submission of items or requests for meetings well in advance of this time period to avoid delays to their schedule due to unavailability of staff during this period.

1.5.H. Electronic files shall be provided in their native format (MSWord, Excel, Primavera, etc.) as well as Adobe pdf.

1. The entire filename shall not exceed 30 characters, excluding extension.
2. Filenames shall not contain periods (i.e. ".") except to separate the file extension.
3. All dates within the project documentation and in the filenames shall have years shown with four digits.

1.5.I. Document files shall not be "locked" or otherwise blocked from changes. If it is imperative that a document be password protected, the password shall be provided to USIBWC.

1.5.J. Hard copies shall <u>not</u> be provided in 3-ring binders (except for O&M manuals, if required). Large, lengthy hard copies shall be grouped in expandable folders. Folders shall not exceed 3.5 inches in width.

1.6. ADOBE PDF FILES

1.6.A. All reports, submittals, record documents, and other deliverables, unless specifically noted to use a different filetype in these Technical Specifications, shall be provided as pdf documents.

1.6.B. Whenever possible, files shall be saved/printed as pdfs instead of scanned as pdfs.

1. "Print" to pdf with a minimum resolution of 600 dpi, but 1200 or 2400 dpi is preferred for text documents.

1.6.C. Pdf files that contain form fields shall be "printed" to pdf prior to submittal to USIBWC. Printing the file to pdf locks the data and prevents the form field from being changed.

1. Pdfs shall include valid electronic signatures, or they shall be scans of the original documents.
   a. Valid electronic signatures include digital signatures created through the pdf program or inserted scans of a true signature. By submitting an item using either of these items, the Contractor is certifying that the signature is valid.

1.6.D. Embed all fonts used in the pdf files.

1.6.E. Per USIBWC's "*Drawing and CAD Standards*" the minimum resolution for drawings generated from AutoCAD is 1200 dpi.

1.6.F. Color documents shall be scanned in color. NCR pages that are other than white (e.g. all yellow or all pink) are not considered color documents and shall be scanned in grayscale or black and white. Black and white is preferred.

1.6.G. The minimum scanning resolution shall be:

1. 400 dpi for color and grayscale
2. 600 dpi for black and white

1.6.H. Provide data/information within the pdf itself. Do not use "attachments" within a pdf file. Do not use a pdf portfolio.

1.6.I. Pdfs shall be sized at ANSI A (8 ½" x 11"), ANSI B (11" x 17"), or ANSI D (22" x 34") unless the original is another size, then the pdf shall be the size of the original document.

1.6.J. Reports and plans (e.g. Safety Plan, QC Plan, Stormwater Pollution Prevention Plan) provided to the Government as submittals shall be provided in pdfs with recognizable text (i.e. searchable pdf). Recognizable text is searchable by character or words.

1.6.K. The Contractor shall ensure that the electronic copy is legible.

1.7. IMAGE FILES

See Section 01.32.33 for requirements of photograph and video files.

--End of Section--

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SECTION 00.70.13
PROJECT DATA

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General....1
1.1. Section Includes....1
1.2. Reference Standards....1
1.3. Measurement and Payment....1
1.4. General....1
1.5. Definitions....1
1.6. Data First Produced in the Performance of this Contract....2
1.7. Data Not First Produced in the Performance of this Contract....2
1.8. Release and Use Restrictions....2
--End of Section--....2

1.2. REFERENCE STANDARDS

1.2.A. United States Code (USC)

1. 17 USC 401-402

1.3. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.4. GENERAL

1.4.A. The Government shall have unlimited rights in all data delivered under this Contract and in all data first produced in the performance of this Contract. The Government shall also have the right to limit assertion of copyright in data first produced in the performance of this Contract and to obtain assignment of copyright in that data. The Government has the right to limit the release and use of certain data.

1.4.B. All data, submittals, and pay estimates are required contractual documents and are in no way privileged nor confidential information. Contractor shall not state that these items are confidential business information nor state that they are not to be revealed to third parties with or without approval.

1.5. DEFINITIONS

1.5.A. "Data" means recorded information, regardless of form or the media on which it may be recorded. The term includes all technical data and testing data. The term does not include information incidental to Contract administration, such as financial, administrative, cost or pricing, management information, or computer software.

1. Data examples include, but are not limited to:
   a. The production of audiovisual works, including motion pictures or television recordings with or without accompanying sound, or for the preparation of motion picture scripts, musical compositions, soundtracks, translation, adaptation, and the like.
   b. Photographs, negatives, and slides.
   c. Histories of the respective agencies, departments, services, or units thereof.
   d. Surveys of Government establishments including any associated survey data and drawings produced from such surveys.

e. Works pertaining to the instruction or guidance of Government officers and employees in the discharge of their official duties.

f. The compilation of reports, books, studies, surveys, or similar documents.

g. The collection of data containing personally identifiable information such that the disclosure thereof would violate the right of privacy or publicity of the individual to whom the information relates.

h. Investigatory reports.

i. The development, accumulation, or compilation of data, the early release of which could prejudice follow-on acquisition activities or agency regulatory or enforcement activities.

j. Designs, models, reports, surveys, submittals, plans, specifications, and drawings.

k. Any other items provided in the performance of this Contract.

1.5.B. "Unlimited rights" means the rights of the Government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.

1.6. DATA FIRST PRODUCED IN THE PERFORMANCE OF THIS CONTRACT

1.6.A. The Contractor shall not assert or authorize others to assert any claim to copyright subsisting in any data first produced in the performance of this Contract without prior written permission of the Contracting Officer.

1.6.B. The Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license for all delivered data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government.

1.7. DATA NOT FIRST PRODUCED IN THE PERFORMANCE OF THIS CONTRACT

The Contractor shall not, without prior written permission of the Contracting Officer, incorporate in data delivered under this Contract, any data not first produced in the performance of this Contract and that contain the copyright notice of 17 USC 401 or 402, unless the Contractor identifies such data and grants to the Government, or acquires on its behalf, a nonexclusive, irrevocable, worldwide license.

1.8. RELEASE AND USE RESTRICTIONS

1.8.A. Except as otherwise specifically provided for in this Contract, the Contractor shall not use, release, reproduce, distribute, or publish any data first produced in the performance of this Contract, nor authorize others to do so, without written permission of the Contracting Officer.

1.8.B. The Contractor shall indemnify the Government and its officers, agents, and employees acting for the Government against any liability, including costs and expenses, incurred as the result of:

1. The violation of trade secrets, copyrights, or right of privacy or publicity, arising out of the creation, delivery, publication, or use of any data furnished under this Contract.

2. Any libelous or other unlawful matter contained in such data. The provisions of this paragraph do not apply unless the Government provides notice to the Contractor as soon as practicable of any claim or suit, affords the Contractor an opportunity under applicable laws, rules, or regulations to participate in the defense of the claim or suit, and obtains the Contractor's consent to the settlement of any claim or suit other than as required by final decree of a court of competent jurisdiction; and do not apply to material furnished to the Contractor by the Government and incorporated in data to which this clause applies.

--End of Section--

SECTION 00.72.00
ORDER OF PRECEDENCE

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Measurement and Payment 1
1.5. General 1
Part 2 - Execution 2
2.1. Administration 2
--End of Section-- 2

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.21.13-Instructions to Bidders

1.2.B. Section 01.31.00-Project Coordination

1.2.C. Section 01.33.00-Submittal Procedures

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR Subpart 14.2
2. FAR 52.214-29 Order of Precedence-Sealed Bidding
3. FAR 52.236-21 Specifications and Drawings for Construction

1.4. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.5. GENERAL

1.5.A. In following with FAR guidance, any inconsistency in the Solicitation or Contract shall be resolved by giving precedence in the following order:

1. The Schedule which refers to FAR 14.201-2 and includes Sections A through H of the Solicitation/Contract but excludes the specifications.
2. Representations and other instructions which refers to FAR 14.201-5 and includes Sections K, L, and M of the Solicitation.
3. Contract clauses which refers to FAR 14.201-3 and includes Section I of the Solicitation/Contract.
4. Other documents, exhibits, and attachments which refers to FAR 14.201-4 and includes Section J of the Solicitation/Contract but excludes the specifications.
5. This document (i.e. the Technical Specifications)
6. The Contract Drawings.

PART 2 - EXECUTION

2.1. ADMINISTRATION

2.1.A. As soon as an inconsistency is discovered, bring it to the Government's attention.

1. Minor inconsistencies can usually be resolved with the COR and are then noted on the Record Documents.
2. Inconsistencies affecting Contract time or money shall be brought to the CO's attention immediately.

2.1.B. Any inconsistency discovered prior to bidding shall follow Section 00.21.13.

2.1.C. Any inconsistency discovered after award shall be documented via a submittal (Section 01.33.00), an RFI (Section 01.31.00), or an official letter to the CO.

--End of Section--

SECTION 00.73.63
SECURITY REQUIREMENTS *********

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General....1
1.1. Section Includes....1
1.2. Related Requirements....1
1.3. Submittals....1
1.4. Record Documents....1
1.5. Measurement and Payment....1
1.6. General....1
1.7. Security....2
1.8. Insurance....2
1.9. Department of Homeland Security....2
1.10. Personnel Working Onsite....3
--End of Section--....3

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.35.23-Safety

1.3. SUBMITTALS

1.3.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.3.B. Required submittals in this Section include:

1. Armed security guard licenses, if required

1.4. RECORD DOCUMENTS

1.4.A. Required documents to be provided to Government in this Section include:

1. Fingerprinting for all applicable personnel
2. Background investigation paperwork as noted below
3. Updates whenever employees are added or deleted from the work crews.
4. Access logs with the Contractor's daily report

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL

The project site may be exposed to vandalism, theft, or other unsafe conditions. The Contractor shall be responsible for providing adequate security of the project site in order to prevent vandalism and theft.

1.7. SECURITY

1.7.A. The Contractor is responsible for securing the worksite, equipment, and materials from vandalism and theft.

1.7.B. The Contractor is responsible for providing a safe worksite for their employees. The level of security required to provide a safe worksite is determined by the Contractor.

1.7.C. The Contractor shall implement a security program that:

1. Protects the work, the existing premises, and the Government's operations from theft, vandalism, and unauthorized entry.
2. Initiates a security program in coordination with Government's existing security system at mobilization.
3. Maintains the security program throughout construction duration until Contract Closeout.

1.7.D. The Contractor shall implement entry control to the work area that notifies people of the construction area, of PPE required, and of the dangers of entry. The Contractor shall log all personnel onsite. Daily logs of entry and exit times for each person shall be included with the Contractor's daily report.

1.7.E. The Government shall not be responsible for the security of any items within the work area and associated PSLs.

1.7.F. Armed Security

1. Prior to the use of any armed personnel onsite, the Contractor shall submit Texas Level III or Level IV Security Officer (Guard) License issued by the TX Department of Public Safety.
2. All vehicles used by armed security guards must have markings on both doors noting that they are "Armed Security."
3. Additionally, the APP in Section 01.35.23 must include the use of armed guards and an associated AHA must be provided and compliance confirmed.

1.8. INSURANCE

1.8.A. When not required by the Contract clauses, the Contractor has the right to purchase coverage for property insurance, builder's risk insurance (including perils of wind, collapse, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure), and/or flood insurance or to be self-insured for these exposures.

1.8.B. The Contractor shall be held liable for all costs associated with losses, deductibles, and self-insurance for insurance coverages not required by the Contract clauses.

1. Losses shall include architects' and engineers' fees that may be necessary to provide drawings and specifications for the repair and/or replacement of damaged property.
2. Losses shall include appropriate supervision and quality control of all work for the repair and/or replacement of damaged property.

1.8.C. Any insurance policies purchased for work or property related to this Contract for coverages not required by the Contract clauses shall list the International Boundary and Water Commission, United States Section, as an additional insured.

1.9. DEPARTMENT OF HOMELAND SECURITY

1.9.A. In any event the staff of the US Department of Homeland Security (also known as US Customs and Border Protection (CBP)) alerts and directs any field crews to stop work in for any security reasons in the area, the Contractor shall consider this as top priority and fully cooperate with the directions of DHS at all times until the security alert is cleared by the DHS. In addition, the Contractor shall contact and coordinate with the COR for any additional steps to be taken during and after the security alert from the DHS is cleared.

1.9.B. Access to the site is through a Customs and Border Patrol Port of Entry. Personnel working onsite must have required documentation to pass through the Port of Entry.

1.10. PERSONNEL WORKING ONSITE

1.10.A. All personnel regularly working onsite shall provide fingerprints so USIBWC can run a criminal background check.

1. Fingerprinting for each individual needs to be scheduled ahead of time.
2. The Contractor shall provide updates whenever employees are added or deleted from the work crews.
3. Personnel must pass the background checks/vetting to be allowed to work onsite. Checks will be rerun every 6 months, but fingerprinting is only required once.
4. Workers with outstanding warrants or issues with their immigration paperwork are precluded from working onsite.
5. Workers with DUI convictions within the past year are precluded from operating any on-road or off-road equipment on this project.

1.10.B. Tier 1 Background Investigations
The following Contractor and subcontractor personnel are required to pass a Tier 1 background investigation.

1. Onsite Project Manager(s)
2. Superintendent(s)
3. Quality Control System Manger(s)
4. Site Safety and Health Officer(s).

1.10.C. For all background investigations (Tiers 1), personnel shall complete IBWC Form 063C and OF-306. Personnel shall also provide their resume and get fingerprinted.

1. The forms and resume shall be completed prior to scheduling fingerprinting.
2. Tier 1 investigations may take up to 90 days. Personnel noted in Paragraph 1.10.B. are not allowed to work onsite unescorted until favorable completion of their background investigation.
3. USIBWC cannot guarantee personnel will be available to escort applicable personnel prior to receipt of their background investigation.

1.10.D. The Contractor shall ensure that all employees working onsite are identifiable with a project identification card, a special hard hat color, a significantly colored piece of clothing, or another method agreeable to USIBWC.

1.10.E. All on-road vehicles shall have the name of the construction company/Contractor clearly displayed on the side of the vehicle.

--End of Section--

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SECTION 00.73.73
REQUIREMENTS FOR SENSITIVE BUT UNCLASSIFIED

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Record Documents 2
1.5. Measurement and Payment 2
1.6. General 2
1.7. Sensitive But Unclassified (SBU) 2
1.8. Subcontractors, Suppliers, and Vendors 3
Part 2 - Execution 4
2.1. Marking SBU Data 4
2.2. Requests for Interpretation 4
2.3. Destruction of SBU Data 4
--End of Section-- 5

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.3. REFERENCE STANDARDS

1.3.A. Code of Federal Regulations (CFR)

1. 22 CFR 1101, International Boundary and Water Commission, Privacy Act of 1974
2. 22 CFR 1104, International Boundary and Water Commission, Protection of Archaeological Resources

1.3.B. Executive Order (EO)

1. Classified National Security Information, EO 13526
2. Sensitive But Unclassified, EO 13556

1.3.C. National Institute of Standards and Technology (NIST)

1. NIST SP 800–53 Security and Privacy Controls for Federal Information Systems and Organizations, Rev 5, Release 5.1.1, November 7, 2023
   nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-53r5.pdf
2. NIST SP 800–88 Guidelines for Media Sanitization, Rev 1, December 17, 2014
   nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-88r1.pdf
3. NIST SP 800-171 Protecting Sensitive But Unclassified in Nonfederal Systems and Organizations, Revision 3, May 2024
   nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-171Ar3.pdf

1.3.D. United States Code (USC)

1. Homeland Security Act, 6 USC 671(3)

1.4. RECORD DOCUMENTS

1.4.A. Required documents to be provided to Government in this Section include:

1. Nondisclosure Agreements, IBWC Form 358
2. List of subcontractors and suppliers/vendors provided with SBU data
3. Nondisclosure Agreement Releases, IBWC Form 358A
4. Certification of destruction upon release of nondisclosure agreements

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL

1.6.A. The work on this project contains Sensitive But Unclassified (SBU).

1.6.B. The Contractor is required to sign a nondisclosure agreement (IBWC Form 358) prior to receipt of any SBU data.

1. All companies, whether subcontractors, suppliers, or vendors, creating, reviewing, or using SBU data shall sign a nondisclosure agreement prior to being granted access.
2. The requirements of Form 358, Nondisclosure Agreement, are incorporated into and included as requirements in this Section.

1.6.C. SBU documents are to be disseminated only to those requiring the information necessary for design, construction bidding, construction coordination, or other project processes.

1.6.D. The Contractor shall ensure that their SBU System meets NIST SP 800-171.

1.7. SENSITIVE BUT UNCLASSIFIED (SBU)

1.7.A. SBU data includes, but is not limited to:

1. Information not customarily in the public domain and related to the protection of critical infrastructure assets, operations, or resources, whether physical or cyber, as defined in the Homeland Security Act, 6 USC 671(3).
2. Certain information relating to the design and construction of buildings, dams, and other facilities.
3. Information illustrating or disclosing infrastructure protection vulnerabilities, or threats against persons, systems, operations, or facilities, but not meeting the criteria for classification under Executive Order 13526.

1.7.B. Examples of Sensitive But Unclassified

1. Buildings
   a. Location and details of security areas.
   b. Risk assessments and information regarding security systems.
   c. Camera locations.
   d. Computer processing areas.
   e. Location and details of secure functions or secure space. Examples include, but are not limited to:
      (1) Heating, ventilation, air conditioning (HVAC)
      (2) Information technology (IT) systems
      (3) Air intake vents
      (4) Water sources
      (5) Gas lines
      (6) Plumbing lines

(7) Building automation systems
(8) Power distribution systems
(9) Telephone and cable distribution systems
(10) Emergency generation equipment
(11) Uninterrupted power sources (UPS)
(12) Security and fire alarm systems
(13) Routes and annunciation panels

f. Location and type of structural framing.

g. Structural analysis, including:
(1) Progressive collapse
(2) Seismic
(3) Building security
(4) Blast mitigation

h. Load limits are not SBU.

i. Counterterrorism methods taken to protect the occupants and the building.

2. Dams and Other Facilities
a. Cross sections of dams and/or power plants.
b. Structural analysis and design details of international bridges.
(1) **Load limits are not SBU.**
c. Facility valve boxes or physical equipment that control input and output to facility.
d. SCADA systems.

3. Locations of cultural/archaeological sites

4. Locations of endangered, threatened, or rare species

1.8. SUBCONTRACTORS, SUPPLIERS, AND VENDORS

1.8.A. The Contractor shall insert this clause in all subcontracts as well as supplier/vendor agreements/contracts when the items produced by the supplier/vendor falls within SBU definition or if the supplier/vendor requires SBU information in order to perform their service or produce their product.

1. Copies of all nondisclosure agreements (IBWC Form 358) shall be provided to the COR.

1.8.B. Subcontractors, suppliers, and vendors shall include any individual, partnership, company, or corporation performing work for the Contractor but not an employee of the Contractor.

1.8.C. The Contractor is responsible for subcontractor, supplier, and vendor control and use of SBU data.

1.8.D. The Contractor shall maintain a list of all subcontractors, suppliers, and vendors provided access to SBU data as well as a description of what data was provided.

1. This list shall be provided with each pay estimate submitted by the Contractor or when requested by the COR or CO

PART 2 - EXECUTION

2.1. MARKING SBU DATA

2.1.A. Drawings and specifications classified as SBU shall be marked as noted below:

1. This mark must be affixed to the cover or first page of any document containing pages with SBU data:

SENSITIVE BUT UNCLASSIFIED (SBU)
PROPERTY OF THE UNITED STATES GOVERNMENT.
COPYING, DISSEMINATION, OR DISTRIBUTION OF
THIS DOCUMENT TO UNAUTHORIZED RECIPIENTS
IS PROHIBITED.
Do not remove this notice.
Properly destroy or return documents
when no longer needed.

2. Pages containing SBU information must have the following mark imprinted or affixed:

SENSITIVE BUT UNCLASSIFIED (SBU)
PROPERTY OF THE UNITED STATES GOVERNMENT.
FOR OFFICIAL USE ONLY.
Do not remove this notice.
Properly destroy or return documents
when no longer needed.

3. The previous two statements must be prominently labeled in bold type in a size appropriate for the document or portable electronic data storage device or both, if applicable. The statements must be in a minimum of 14 point (0.200 inch in AutoCAD) bold type or equivalent.

2.1.B. Documents such as reports shall have the mark noted at 2.1.A.1. on their cover and shall have each individual page containing SBU data marked at the top of the page with "SENSITIVE BUT UNCLASSIFIED (SBU)."

1. Every page of the document is not required to be marked SBU. Only mark pages with SBU data.

2.1.C. Documents such as notes and drawings shall have the mark noted at 2.1.A.2. on each page.

2.1.D. The SBU markings must be used regardless of the medium through which the information appears or is conveyed.

2.1.E. If a submittal contains SBU data, only the pages containing SBU data are required to be marked. See Section 01.33.00 1.8.H.

2.2. REQUESTS FOR INTERPRETATION

2.2.A. If the Contractor is unclear if items should be marked SBU, they shall request an interpretation from the COR or CO. The Contractor may also request interpretation as to whether items shall be removed from SBU classification.

2.2.B. The decision issued by the COR or CO shall be binding.

2.3. DESTRUCTION OF SBU DATA

2.3.A. Upon completion of this Contract, the Contractor shall be released from the nondisclosure agreement using IBWC Form 358A.

2.3.B. The Prime Contractor shall release their subcontractors and suppliers/vendors using IBWC Form 358A.

1. The Contractor is responsible for releasing their subcontractors, suppliers, and vendors. Copies of these written release shall be provided as an information only submittal to the COR.

2. A copy of all Form 358As shall be provided to the COR.

2.3.C. Upon written release from the nondisclosure agreement, the Contractor shall certify to the CO that all data marked SBU, whether provided by USIBWC or created under this Contract, has been destroyed in a manner to preclude recognition or reconstruction by themselves and all subcontractors and suppliers/vendors to whom the data was issued.

1. If the Contractor or one of their subcontractors/suppliers/vendors is required to keep copies of SBU data due to state rules/regulations or due to one of the technical requirements of the Contract (i.e., building code, regulation, etc.), then permission to keep the data shall be requested in writing from the CO. The request shall state what information will be kept, the justification for keeping the data, and the method of data storage that will be applied to ensure requirements of the nondisclosure agreement are not violated.
2. The Contractor or any of their subcontractors, suppliers, or vendors may provide SBU that must be retained as records to USIBWC for storage. Such data will be included with the record construction files and stored permanently. A cover letter shall be applied to the data noting the company responsible for the data and the reason for the storage of the data. Please note that the SBU classification may not prevent data stored in US Government records from disclosure via Freedom of Information Act (22 CFR 1101).

2.3.D. SBU data must be destroyed in a manner that makes it unreadable, indecipherable, and irrecoverable. Use one of the following methods:

1. NIST SP 800–53
2. NIST SP 800–88
3. Any method of destruction approved for Classified National Security Information, as delineated in 32 CFR 2001.47.

--End of Section--

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SECTION 00.91.16
BID REVISIONS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Measurement and Payment 1
1.3. General 1
--End of Section-- 1

1.2. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.3. GENERAL

Questions received during the Solicitation process will be posted in this Section in an effort to keep all documentation together in a single document.

--End of Section--

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International Boundary and Water Commission
United States Section

TECHNICAL SPECIFICATIONS
DIVISION 01
GENERAL REQUIREMENTS

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SECTION 01.11.00
SUMMARY OF WORK

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 2
1.4. Measurement and Payment 2
1.5. Work Covered by the Contract Documents 2
1.6. Sequence of Work/Time for Completion of Work 2
1.7. Work Under Other Contracts 3
1.8. Labor and Staffing 3
1.9. Project Location 3
1.10. Other Contractual Requirements 3
Part 2 - Products 3
2.1. Government Furnished Materials 3
2.2. Products to be Furnished by the Contractor 3
Part 3 - Execution 4
3.1. Submittals Required Prior to Mobilization 4
3.2. Use of Right-of-Way 5
3.3. Occupancy of Right-of-Way 5
3.4. Work Restrictions 5
--End of Section-- 5

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.32.16-Construction Progress Schedule

1.2.B. Section 01.32.33-Photographic Documentation

1.2.C. Section 01.33.00-Submittal Procedures

1.2.D. Section 01.35.23-Safety

1.2.E. Section 01.45.00-Quality Control

1.2.F. Section 01.51.00-Temporary Utilities

1.2.G. Section 01.52.13-Field Offices and Sheds

1.2.H. Section 01.57.00-Temporary Controls for Work Areas

1.2.I. Section 01.57.19-Temporary Environmental Controls

1.2.J. Section 01.74.19-Construction Waste Management and Disposal

1.2.K. Section 01.78.36-Warranties *******

1.2.L. Section 35.22.46-Tainter Gates *********

1.3. REFERENCE STANDARDS

1.3.A. United States Code (USC)

1. Davis Bacon Act (DBA), 40 USC 3141-3148

1.4. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.5. WORK COVERED BY THE CONTRACT DOCUMENTS

1.5.A. The work for this project generally consists of replacement of each radial gate's side seals, bottom seals, and seal fasteners. The work also includes necessary repairs for tensioning of cables, gate alignment, and trunnion pin grease removal and re-lubrication for each gate. All 8 United States' gates shall be pressure washed, sandblasted, and recoated/repainted.

1.5.B. The major construction efforts include, but are not limited to, the following tasks:

1. The current paint/coating shall be tested for lead-based paint.
2. All existing paint/coating shall be removed from the 8 radial gates.
3. Radial gates shall be recoated/repainted.
4. All radial gate anodes shall be replaced.
5. All radial gate side seals shall be replaced.
6. All radial gate bottom seals shall be replaced.
7. All radial gate seal fasteners shall be replaced.
8. After replacement of gate seals and re-lubrication of each gate, the gate cables shall be re-tensioned while the gates are properly aligned.

1.5.C. The final product shall be fully operational radial gates with properly installed new paint/coating.

1.6. SEQUENCE OF WORK/TIME FOR COMPLETION OF WORK

1.6.A. The Contractor shall comply with all submittal requirements as covered under these Technical Specifications and obtain Government review of each submission.

1. **No construction shall be started, until the Government compliance confirms the required premobilization submittals.**
2. The Government will not grant any time extension for any resubmittal required when, in the opinion of the CO, the initial submission failed to meet the minimum quality requirements as set forth in the Contract.
3. If the Government allows the Contractor to proceed with limited construction based on pending minor revisions to the reviewed submittals, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted, and are compliance confirmed by the Government.
4. No payment will be made for any in-place construction until all submittals required for that portion of the work and/or required prior to the start of construction have been made, reviewed, and are compliance confirmed by the Government.

1.6.B. **U**nless otherwise agreed to with the COR, **mobilization and sitework shall begin within 90 days or as soon as the Tier 1 investigation is completed of the issuance of the Notice to Proceed (NTP)**.

1. Contractor shall expeditiously plan and prepare their premobilization submittals and any resubmittals as well as take into account the Government's review time to meet this requirement.

2. Surveying, photographing/videotaping site, and vibration condition survey do not constitute sitework for this requirement.

1.6.C. The work under this Contract shall be completed within the timeframe specified in the Contract Provisions. Time will only stop being counted once substantial completion is achieved (Section 01.78.36).

1.7. WORK UNDER OTHER CONTRACTS

No construction work is anticipated to be performed at the project site under separate Contract with other Contractors during the Contractor's performance period. Work is planned on the Mexican side of the dam which may overlap with the Contractor's performance period.

1.8. LABOR AND STAFFING

1.8.A. Contractors are responsible for determining the appropriate staffing necessary to perform the Contract work. Contractors are also responsible for complying with the minimum wage and benefits requirements for each labor classification performing work on the Contract.

1.8.B. If a classification considered necessary by the Contractor for performance of the work is not listed on the applicable wage determination, the Contractor must initiate a request for approval of an additional classification along with the proposed wage and benefit rates for that classification.

1.8.C. The Contracting Officer will attach the appropriate Davis-Bacon wage determination to this Contract. The Contractor is responsible for all requirements of the Davis-Bacon Act.

1.9. PROJECT LOCATION

1.9.A. The work is within the United States Section of the International Boundary and Water Commission's (USIBWC) Amistad Reservoir and Dam Project, in Val Verde County, Texas.

1.9.B. The work is located completely within the United States but is directly adjacent to the international border with Mexico.

1.10. OTHER CONTRACTUAL REQUIREMENTS

1.10.A. Items mentioned in the Technical Specifications and not shown on the Contract Drawings, or shown on the Drawings and not mentioned in the Technical Specifications, shall be of like effect as if shown or mentioned in both.

1.10.B. In any case where these Technical Specifications conflict with the Federal Acquisition Regulations (FAR), use the following rules of precedence.

1. In any case where FAR requirements are stricter or impose a higher standard than these Technical Specifications, FAR requirements will take precedence.
2. In any case where Technical Specification requirements are stricter or impose a higher standard than the FAR, Technical Specification requirements will take precedence.

PART 2 - PRODUCTS

2.1. GOVERNMENT FURNISHED MATERIALS

The Government will not provide any materials for this project.

2.2. PRODUCTS TO BE FURNISHED BY THE CONTRACTOR

2.2.A. The Contractor shall provide all labor, all equipment, and all products required to execute the project.

2.2.B. All materials provided by the Contractor for the project shall be new or recycled, high grade, free from defects, meeting the Technical Specifications herein. The minimum quality of the work shall be in accordance with the Technical Specifications herein. The Contractor's Quality Control System Manager

will ensure compliance confirmation and the Contractor's testing company will ensure that materials, equipment, and work quality strictly adhere to the requirements of the Contract documents.

2.2.C. Materials, equipment, and work quality not conforming to the requirements of these Technical Specifications shall be considered defective and will be subject to rejection. Defective work material, whether in place or not, or equipment shall be removed immediately from the site by the Contractor, at its expense, when so directed by the COR.

2.2.D. If the Contractor fails to replace any defective or damaged work, materials, or equipment after receiving notice, the COR may cause such work or materials to be replaced by other forces. The replacement expense shall be deducted from the amount to be paid to the Contractor. Defective equipment will not be allowed in the performance of any work.

2.2.E. Water for All Construction Activities

1. The water required for all construction activities including dust control (Section 01.57.19), shall be considered as incidental and shall be provided from a metered source that is compliance confirmed by the USIBWC.
   a. See Section 01.51.00 for requirements of weekly meter reading reports.
2. Water from the Rio Grande and Amistad Reservoir shall not be used by the Contractor at any time.
3. Water use must be in accordance with Texas water law.

PART 3 - EXECUTION

3.1. SUBMITTALS REQUIRED PRIOR TO MOBILIZATION

3.1.A. Specific sections detail submittal requirements. The list below are the submittals required prior to full mobilization and prior to starting construction activities.

1. Baseline Schedule (Section 01.32.16)
2. Photographs of Existing Conditions (Section 01.32.33)
3. Submittal Register (Section 01.33.00)
4. Accident Prevention Plan (Section 01.35.23)
5. Applicable AHAs to start mobilization and construction (Section 01.35.23)
6. Site Safety and Health Officer Qualifications (Section 01.35.23)
7. Employee First-Aid and CPR Training Records (Section 01.35.23)
8. Contingency Evacuation Plan (Section 01.35.23)
9. Quality Control Plan (Section 01.45.00)
10. Contractor Quality Control System Manager Qualifications (Section 01.45.00)
11. Staging Area/Haul Routes/Trailer Location/Storage (Section 01.52.13 and 01.57.00)
12. SWPP Plan (Section 01.57.19), if applicable
13. SWPP NOI (Section 01.57.19), if applicable
14. Resource Conservation Construction Plan (Section 01.74.19)
15. Work Process Procedure (Section 35.22.46)

3.1.B. Once these required submittals have been compliance confirmed by the COR, the Contractor will be allowed to mobilize and begin work within USIBWC's right-of-way (ROW).

3.2. USE OF RIGHT-OF-WAY

3.2.A. Limits

1. Construction operations shall be confined to the USIBWC ROW and property outside of our ROW is not to be disturbed unless one of the following applies:
   a. Contractor enters into agreement with landowner
   b. Access is allowed in another Contract Document

3.2.B. It is the Contractor's responsibility to locate and/or verify the areas required for construction beyond the USIBWC ROW, identify the owners of the affected properties, and acquire necessary agreements/easements, prior to commencement of construction, at no additional cost to the USIBWC.

3.2.C. Roads serving the right-of-way, identified as such or not, owned by the USIBWC or CBP shall be clear and available to these agencies.

3.3. OCCUPANCY OF RIGHT-OF-WAY

3.3.A. Partial Government Occupancy
The Government may need to occupy the right-of-way during the entire construction period, with the exception of areas under construction. The Contractor shall cooperate with the Government during construction operations to minimize conflicts and facilitate Government access. The Contractor needs to maintain existing access to the facility, unless otherwise indicated in the Contract Drawings. The Contractor shall provide not less than 72 hours' notice to the Government of construction activities that will affect any Government activities.

3.3.B. Government Occupancy of Completed Areas of Construction
The Government reserves the right to occupy and to place and install equipment in completed areas of the facility, before Substantial Completion, provided such occupancy does not interfere with completion of the work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total work.

3.4. WORK RESTRICTIONS

3.4.A. Onsite Work Hours
The Contractor's attention is directed to the Contract Provisions.

3.4.B. Facility Office Hour

1. The working hours of the adjacent USIBWC facility are 7:00 am to 5:00 pm, Monday through Friday.
2. USIBWC facilities are closed during all Federal Holidays.

3.4.C. Site Access Restrictions
Access to the site is made via Texas Spur 349. Texas Spur 349 bridge inventory rating is limited to HS-20. The load capacity of the embankment crest road is 70,000 pounds.

3.4.D. Port of Entry

1. The port of entry is open from 10:00 a.m. to 6:00 p.m. If the Contractor requires to begin work prior to the port of entry opening or after closing, this must be coordinated with the Amistad Dam Area Operations Manager.
2. Workers crossing through the port of entry need to have proper documentation for reentry to the United States.

--End of Section--

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SECTION 01.20.00
MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. General 2
1.6. Schedule of Values 2
1.7. Measurement of Work Completed 2
1.8. Measurement of Quantities 3
1.9. Scope of Payment 4
1.10. Measurement and Payment for Changes in Work 4
1.11. Request for Price Increase 4
1.12. Progress Payments (Lump Sum CLINs) 5
1.13. Inspection and Progress Payments Not a Waiver of Contract Provisions 5
1.14. Withholdings/Denial of Progress Payment Request 6
1.15. Nonpayment of Materials and/or Construction 6
1.16. Facilities Cost of Money 7
1.17. Liquidated Damages for Delay 7
Part 2 - Products 7
2.1. Baseline Billing S Curve 7
2.2. Pay Estimate Billing S Curve Updates 7
2.3. Schedule of Values 8
--End of Section-- 8

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.21.13-Instructions to Bidders

1.2.B. Section 01.29.00-Payment Procedures

1.2.C. Section 01.32.16-Construction Progress Schedule

1.2.D. Section 01.33.00-Submittal Procedures

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR Subpart 31.2, Contract Cost Principles and Procedures, Contracts with Commercial Organizations
2. FAR 52.211-18, Variation in Estimated Quantity
3. FAR 52.215-17, Waiver of Facilities Capital Cost of Money
4. FAR 52.236-2, Differing Site Conditions
5. FAR 52.243-1, Changes - Fixed Price

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. S Curve graph and table
2. Schedule of Values

1.5. GENERAL

1.5.A. This Section includes specifications for measurement and payment as they apply to the work and includes provisions applicable to lump sum prices and unit prices, as indicated.

1.5.B. Measurement methods specified in the individual sections shall govern if they differ from methods specified in this Section.

1.5.C. Costs presented for work under this Contract shall be in line with FAR Subpart 31.2.

1.5.D. Contractor is responsible for using established cost accounting practices to allocate and record all costs associated with this project. Accounting records for this project shall be kept for 6 years after date of final payment.

1.5.E. See Section 00.21.13 1.7. for information about bid items.

1.6. SCHEDULE OF VALUES

1.6.A. The Schedule of Values prepared by the Contractor and compliance confirmed by the Government prior to acceptance of the first progress payment request.

1. Overhead, general and administrative expenses, submittal preparation, escrow, bonds, profit, and other across the board markups shall be applied to each line in the Schedule of Values uniformly.
2. The sum of the Schedule of Values items listed in the breakdown estimates shall equal the Contract lump sum for each bid item.
3. An unbalanced Schedule of Values providing for overpayment to the Contractor for items of work to be performed first will not be compliance confirmed but shall be revised by the Contractor and resubmitted until acceptable to the COR. If requested by the Government, the Contractor shall furnish full copies of Subcontracts showing actual costs.

1.6.B. The Schedule of Values shall be consistent with the baseline progress schedule prepared by the Contractor in accordance with Section 01.32.16.

1.6.C. The Schedule of Values shall correspond to the measurement and payment sections in these Technical Specifications.

1.7. MEASUREMENT OF WORK COMPLETED

1.7.A. It is the Contractor's responsibility to measure and/or compute work completed, subject to verification by the Government, under the terms of the Contract. In computing quantities, the length, area, solid contents, number, weight, time, or percentage as specified in the Contract, or the Schedule of Values shall be used. The calculations shall be clear and concise, allowing verification by Government review.

1. The basis for measurement and payment will be described in the individual Section for that item of work.
2. All data for final calculations for earthwork shall be verified by a licensed surveyor registered in the State of Texas.

3. The Contractor shall submit all surveys, measurements, weigh tickets, bills of lading or other documents that verify the quantities completed during construction.
4. Do not measure work outside the construction, design, or other adjusted or specified limits.

1.7.B. Estimated Quantities

1. Any estimated quantities provided in the Bid Documents are for comparative bidding only. The Government does not express or imply that the actual amount of work or materials will correspond to the estimated quantities.
2. The Contractor shall make no claim nor receive any compensation for anticipated profits, loss of profit, damages, or any extra payment due to any difference between the amount of work actually completed, or materials or equipment furnished, and the estimated quantities, except as allowed via FAR 52.211-18 Variation in Estimated Quantity, **if** this clause is incorporated into the Contract and applicable to the CLIN covering the work in question.
3. Completion of work in excess of Contract Unit Quantity prior to receiving a Contract Modification or other written direction from the CO is at the Contractor's own risk.
4. Section B of the Contract Provisions will note if FAR 52.211-18 Variation in Estimated Quantity applies to any CLINs.

1.7.C. Lump Sum

If the Contract is based on a lump sum bid prices or contains one or more lump sum items for which progress payments are to be made, the Contractor shall prepare and submit a breakdown estimate (Schedule of Values) covering each lump sum item to the COR for approval if progress payment(s) will be requested for the lump sum value.

1.8. MEASUREMENT OF QUANTITIES

1.8.A. Lump sum items are not measured by quantity but by percentage of work completed for progress payments. The Contractor shall determine how the percentage of work completed is determine in the submission of the Schedule of Values.

1. Lump sum measurement will be for the entire item, unit of work, structure, or combination thereof, as specified and as indicated in the technical section.

1.8.B. Unless otherwise indicated in these Technical Specifications, Measurements for unit priced quantities shall be performed by the following methods.

1. Measurement by Weight
   Weight shall be measured on certified scale.
2. Measurement by Volume
   a. Stockpiles - Measured by cubic dimension using mean length, width, and height or thickness or measured by three-dimensional volume computation from surveyed topography.
   b. Excavation and Fill Materials - Measured by cubic dimension using average end area method based upon surveyed cross sections.
3. Measurement by Area
   Measured by square dimension using mean length and width or radius or by actual surveyed area.
4. Linear Measurement
   Measured by linear dimension, at item centerline or mean chord, or by actual surveyed length.
5. Other
   Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the work.
6. Measurement by Each
   Measured by each instance or item provided.

1.8.C. Common Units

1. Weight shall be measured in US pounds or tons, as appropriate.
2. Length shall be measured in feet or stations (100 feet), as appropriate.
3. Height or elevation shall be measured in feet.
4. Volume shall be measured in cubic yards unless a liquid is being measured then gallons or acre-feet shall be used, as appropriate.
5. Area shall be measured in square yards or acres, as appropriate.

1.9. SCOPE OF PAYMENT

1.9.A. Compensation under the terms of the Contract shall be full payment for the work, including loss or damage arising from the nature of the work, action of the elements, or unforeseen difficulties encountered during the prosecution of the work until its final acceptance, and all risks connected with the prosecution of the work.

1.9.B. The compensation constitutes all of the payment for the completion of the work described within the Contract documents, Contract Drawings, and Technical Specifications herein. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, services, Contractor's field office, project oversight, project superintendence, layout surveys, legal descriptions, monumentation, sanitary requirements, testing, safety, submittals, approval of Record Drawings, water supplies, power, maintaining traffic, removal of waste, security, bonds, insurance, transportation, permits, or any other requirements of the Contract documents. Compensation for all such services, materials, and labor shall be included in the price bid for each item in the project.

1.9.C. The compensation will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for the bid item.

1.9.D. Work To Be Done Without Direct Payment

1. Compensation for any portion of the work not specifically identified in the Schedule of Values is understood to be included in the price for other items, unless specified in these Technical Specifications as extra or optional work.
2. No additional compensation is allowed for additional shifts or premium pay necessary to ensure that the work is completed within the time limits specified in the Contract.

1.10. MEASUREMENT AND PAYMENT FOR CHANGES IN WORK

Measurement and payment to the Contractor for extra work directed and incorporated by Contract modifications, performed by the Contractor and compliance confirmed by the Government, will be made in accordance with the provisions of the Contract and the Technical Specifications.

1.11. REQUEST FOR PRICE INCREASE

1.11.A. The Contractor does not have an implied right to receive additional compensation for unanticipated conditions.

1.11.B. Any request for an increase in any Contract Item/CLIN price shall be based on written notice delivered by the Contractor to the CO and COR promptly and shall state the general nature of the claim.

1. Promptly:
   a. For general work, promptly means not later than 10 calendar days after the start of the event giving rise to the claim.
   b. If Differing Site Conditions (FAR 52.236-2) exist, promptly is before differing site conditions are disturbed.
   c. For items related to FAR 52.234-1, Changes, promptly is within 30 calendar days from receipt of the written change order.

d. In no event shall the Contractor delay notice to the CO of an event which they believe may cause an increase in price.

2. Notice of the amount of the claim with complete supporting data shall be delivered within 60 calendar days after the original notice was provided (unless the CO allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the Contractor's contractual justification for an increase in price as well as a written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the Contractor is entitled as a result of such event.

3. No claim for an adjustment in any Contract Item/CLIN price will be valid if not submitted in accordance with the time requirements of this Section, of FAR 52.236-2, or of FAR 52.234-1.

1.11.C. All requests for price and/or time increases shall clearly state the basis of entitlement and the quantum being requested.

1. Entitlement
Provide an explanation of the change, event, or circumstance giving rise to the request and the related contractual authority or remedy for which relief (usually money or time) is being sought.

2. Quantum
Specifically list cost impacts, damages, or amounts (money or time) being sought. See Section 01.32.16 3.2. for details on time requests.

1.11.D. Contractor is responsible for accounting for costs appropriately and for maintaining records, including supporting documentation, adequate to demonstrate that costs claimed have been incurred, are allocable to the Contract, and comply with established cost principles (FAR Subpart 31.2). The CO may disallow all or part of a claimed cost that is inadequately supported.

1.11.E. No item will be paid without a Contract modification.

1.12. PROGRESS PAYMENTS (LUMP SUM CLINS)

1.12.A. The Schedule of Values shall be used to prepare a progress payment (Section 01.29.00) request for the items, or portions of items, of the work completed during the monthly progress period.

1.12.B. As the construction activity progresses, the Contractor will be paid the value based on the percentage associated with the activity in the Schedule of Values.

1.12.C. The progress payments are made to benefit the Contractor. These payments are made based upon preliminary deliverables, preliminary field inspections, preliminary testing data, and/or preliminary surveys. Progress payments do not constitute acceptance of any portion of the work and do not reduce the Contractor’s liability to replace unsatisfactory work, material, or equipment.

1.12.D. No progress payment will be made when, in the judgment of the Government, the work is not proceeding in accordance with the provisions of the Contract.

1.13. INSPECTION AND PROGRESS PAYMENTS NOT A WAIVER OF CONTRACT PROVISIONS

1.13.A. No inspection, order, measurement, approval modification, payment, acceptance of work or material (including, but not limited to, acceptance of the entire work), time extension, or possession of the work or any part thereof shall be a waiver of any of the terms and conditions of the Contract, the powers reserved by the Government, or any right of the Government to damages or to reject the work in whole or part.

1.13.B. The payment of a progress payment does not constitute acceptance of any portion of the work and does not reduce the Contractor’s liability to replace unsatisfactory work, material, or equipment.

1.13.C. An inadvertence or error in an approved progress payment request will not release the Contractor or the Contractor's surety from damages arising from the work covered by the compliance confirmed payment

request or from enforcement of every provision of the Contract. The Government has the right to correct any error made in any progress payment.

1.13.D. No breach of this Contract shall be construed a waiver of any other or subsequent breach.

1.13.E. All remedies provided in the Contract shall be cumulative and shall be in addition to all other rights and remedies that may exist at law or in equity.

1.14. WITHHOLDINGS/DENIAL OF PROGRESS PAYMENT REQUEST

1.14.A. The Government may deny a progress payment request and/or withhold money from any progress payment to:

1. Cover any unpaid claims filed.
2. Protect the Government's interest.
3. Pay any fines levied against the work by the Government or other entities.

1.14.B. The Government may also deny a progress payment request and/or withhold money, or modify any progress payment, as necessary to protect the Government from loss due to or affecting enforcement of:

1. Defective work not remedied.
2. Stop notices filed.
3. Failure of the Contractor to make payments properly to Subcontractors for labor, materials, or equipment.
4. Evidence that the work cannot be completed for the unpaid balance of the Contract sum.
5. Evidence that the work will not be completed within the Contract time.
6. Damage to the Government or another Contractor.
7. Failure to carry out the work in accordance with the Contract.
8. Any violation or noncompliance with Contractor’s legal responsibilities.

1.14.C. When, under the provisions of the Contract, the Government charges any sum of money against the Contractor, the Government will deduct and retain the amount of such charge from a progress or final payment. If, on completion or termination of the Contract, sums due the Contractor are insufficient to pay the Government charges against the Contractor, the Government has the right to recover the balance from the Contractor or the Contractor's surety.

1.15. NONPAYMENT OF MATERIALS AND/OR CONSTRUCTION

1.15.A. Payment will not be made for any of the following:

1. Materials not surveyed as required in measurement sections of these Technical Specifications.
2. Materials wasted or disposed of in manner not meeting the requirements of these Technical Specifications.
3. Materials and/or construction determined as nonconforming before or after placement.
4. Materials placed beyond lines, levels, and/or limits of required work.
5. Materials remaining on hand after completion of the work, unless specified otherwise.
6. Loading, hauling, and disposing of rejected materials.
7. Materials used to repair construction.

1.15.B. If payment is made, but work is later found to not meet Contract requirements, the Government may require a refund of funds paid, stop all other payments until nonconforming work is brought into compliance, or the Government may correct the work and charge the cost to the Contractor.

1.16. FACILITIES COST OF MONEY

1.16.A. In Contracts awarded via sealed bid solicitations, facilities cost of money is an unallowable cost even if FAR 52.215-17 is not specifically included in this Contract.

1.16.B. In Contracts awarded by negotiation, facilities cost of money is only allowed if it is specifically identified and proposed in the cost proposal. If not included, it is an unallowable cost even if FAR 52.215-17 is not specifically included in this Contract.

1.17. LIQUIDATED DAMAGES FOR DELAY

All parties to the Contract agree that time is of the essence, and that the work shall be completed within the time stated in the Contract. The Contractor's failure to complete the work within the time allowed will result in damages to the Government. It is agreed that the Contractor shall pay to the Government the sum set forth in the Contract for each and every day's delay beyond the time prescribed in the Contract, and the Contractor further agrees that the Government may deduct and retain the amount thereof from any monies due or to become due the Contractor under the Contract.

PART 2 - PRODUCTS

2.1. BASELINE BILLING S CURVE

2.1.A. The Contractor shall prepare an estimate of all earnings over the life of this Contract. The estimated values shall be provided in an S Curve graph showing earnings on the y-axis and time (in months) on the x-axis.

1. This baseline S Curve and table shall be provided in Excel and pdf to the COR and be compliance confirmed prior to the first pay estimate which includes any items other than bonds and insurance.
2. Identify the end of the construction period of performance and the end of the closeout period of performance on the graph.
3. Organize the graph so that it plots no larger than ANSI B (11" x 17").
4. Values used to generate this graph shall also be provided in an Excel table.
5. The sum of the S Curve earnings shall equal the Contract total.
6. An unbalanced S Curve providing for overpayment to the Contractor for items of work to be performed first will not be compliance confirmed but shall be revised by the Contractor and resubmitted until acceptable to the COR. If requested by the Government, the Contractor shall furnish full copies of Subcontracts showing actual costs.

2.1.B. The S Curve shall be consistent with the baseline progress schedule prepared by the Contractor in accordance with Section 01.32.16.

2.2. PAY ESTIMATE BILLING S CURVE UPDATES

2.2.A. The Contractor shall submit, as part of their pay estimate, an updated S Curve graph and data table utilizing actual billed values to date. S Curve data table is the X/Y data used to create the graph. Note for each line whether estimated or actual values.

2.2.B. The Contractor shall show in an Excel table the changes in monthly totals between all monthly values used in the prior estimate and the values used in the compliance confirmed baseline S Curve. Significant changes in monthly values (greater than 50% shall have a narrative included explaining the change.

2.2.C. The Contractor shall show in an Excel table the changes in monthly totals between all monthly values used in the prior estimate and the values used in the current pay estimate. Significant changes in monthly values (greater than 50% shall have a narrative included explaining the change.

2.2.D. If the Contractor fails to provide S Curve updates or revisions, then a portion of the pay estimate may be retained until such corrections have been made.

2.3. SCHEDULE OF VALUES

2.3.A. Breakdown each lump sum CLIN into component work activities used in the schedule for which progress payments may be requested.

1. The total costs for the component work activities shall equal the Contract price for that lump sum CLIN.
2. The Government may request data to verify accuracy of dollar values.

2.3.B. Do not break down unit price items. Use only the Contract price for unit price items.

2.3.C. The total cost of all items shall equal the lump sum CLIN price. The Schedule of Values will form the basis for progress payments.

2.3.D. An acceptable Schedule of Values shall be agreed upon by the Contractor and COR before the first progress payment is processed for each applicable CLIN.

--End of Section--

SECTION 01.29.00
PAYMENT PROCEDURES

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Record Documents 2
1.5. Measurement and Payment 2
1.6. General 2
1.7. SF-1413 2
1.8. USIBWC Payment Processing 2
1.9. Progress Payments 3
1.10. USIBWC Pay Estimate Procedures 4
1.11. Final Payment 7
1.12. IPP Notes 8
--End of Section-- 8

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.20.00-Measurement and Payment

1.2.B. Section 01.29.15-Certified Payroll

1.2.C. Section 01.31.00-Project Coordination

1.2.D. Section 01.32.16-Construction Progress Schedule

1.2.E. Section 01.32.33-Photographic Documentation

1.2.F. Section 01.33.00-Submittal Procedures

1.2.G. Section 01.35.23-Safety

1.2.H. Section 01.77.19-Closeout Requirements

1.2.I. Section 01.78.39-Record Drawings

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR Subpart 31.2, Contract Cost Principles and Procedures, Contracts with Commercial Organizations
2. FAR 32.904, Determining Payment Due Dates
3. FAR 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment
4. FAR 52.222-11, Subcontracts (Labor Standards)
5. FAR 52.232-5, Payments under Fixed-Price Construction Contracts
6. FAR 52.249-10, Default (Fixed-Price Construction)

1.4. RECORD DOCUMENTS

1.4.A. Required documents to be provided to Government in this Section include:

1. IBWC Form 119, Pay Estimate - Contract Performance
2. IBWC Form 119B, Pay Estimate Quantities
3. IBWC Form 147, Updated Submittal Register
4. IBWC Form 148, Log of Photographs with digital photos
5. IBWC Form 149, Schedule Analysis
6. IBWC Form 152, Pay Item Breakdown
7. IBWC Form 153, Monthly Exposure and First Aid Report (for each Contractor/sub)
8. IBWC Form 154, Subcontract's Payment Breakdown
9. IBWC Form 161, Actual Weather and Working Conditions Report
10. IBWC Form 233a, Updated RFI Log
11. IBWC Form 239, Schedule of Materials, if needed
12. Updated Project Schedule (both pdf and native file with written narrative)
13. Updated S Curve with associated Excel tables
14. AutoCAD files and other Record Drawing documents
15. Survey data as applicable

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL

This Section outlines the requirements for construction progress payments on a USIBWC Contract.

1.7. SF-1413

1.7.A. The Contractor shall ensure that SF-1413 forms have been provided to the COR for all subcontractors used on this project, regardless of the contract being covered by Davis-Bacon or not.

1.7.B. SF-1413 forms shall be provided within 14 days of signing a subcontracting agreement.

1.7.C. Failure to provide completed SF-1413 forms will result in denial of progress payments.

1.8. USIBWC PAYMENT PROCESSING

1.8.A. The Contractor shall submit an electronic copy of their pay estimate to the Invoice Processing Platform (IPP) at www.ipp.for.fiscal.treasury.gov. The Contractor's pay estimate is not officially received by the Government until submitted to IPP.

1. The Contractor is required to create an account on IPP and submit their pay estimates through this program.
2. Pdf copies of pay estimates shall be concurrently emailed to the CO and COR upon submission to IPP.

1.8.B. IPP is limited and does not allow the Government to make corrections, take deductions, or assign retainage. Therefore, the Contractor shall make the following changes to their pay estimate prior to submittal to IPP:

1. Per FAR 52.232-5(e) if the CO notifies the Contractor that retainage is to be taken.

2. If deductions are required, the COR will provide the Contractor with the deduction amount. Deductions are required for reimbursement to the Government. This is usually for Government provided utilities or for inspection overtime.
3. Per FAR 52.232-5(e) once work is substantially complete to ensure adequate protection of the Government for remaining punch list items and deliverables, the COR may limit full payment on some CLINs.
4. Per FAR 52.232-27(e)(2) if the Contractor has taken retainage or withholdings from a subcontractor.
5. Payments submitted to IPP without the correct retainage and/or deductions shall be rejected until these amounts have been corrected in the IPP submission.

1.8.C. Per FAR 32.904 (b)(1)(ii)(B), the constructive acceptance for the Contractor's work covered by the submitted pay estimate shall be 7 days from receipt of a proper pay estimate to the Government.

1. This shall allow USIBWC time to ensure that all documents required to be submitted with the pay estimate covering the billing period in question have been provided, are complete, and do not contain any errors. These documents are required per the terms of these Technical Specifications to complete the items of work for which the Contractor is requesting a progress payment.
2. This constructive acceptance is only applicable to FAR 32.904 and in no way constitutes acceptance of any portion of the work and does not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment.
3. Project acceptance does not occur until the items in Section 01.77.19 have been completed.

1.8.D. All pay estimates submitted shall be numbered in IPP with the last 5 digits of the Contract number, underscore, and the 2 digit pay estimate number (e.g. C0008_03). A pay estimate resubmitted to IPP shall include a letter (e.g. C0008_03A) immediately after the 2 digit number.

1. Pay estimate numbers shall start at '1' and increase by 1 for each pay estimate submitted.
2. The pay estimate number on all of the IBWC forms, shall just be the number noted above without the Contract number.

1.8.E. Liquidated Damages and Work Past Contractual End Date

1. If the Contractor fails to perform within the time allocated within this Contract, the Government has the right to apply liquidated damages (see Section 01.20.00 Paragraph 1.17.). IPP prevents USIBWC from paying for work performed outside of the time limits of the Contract. In this situation, USIBWC will provide a bilateral no cost modification extending the Contract period of performance **solely** for the purpose of processing payments as work progresses. Such modification shall not negate the liquidated damages and shall not result in an extension of the applicable work period.
2. After substantial completion has been reached, punch list items may be worked on. This work may extend past the contractual completion date. Similar to Paragraph 1.8.E.1., a bilateral no cost extension may be required to process pay estimates.

1.8.F. Please note that USIBWC usually cannot accept pay estimates the last 2 weeks of September and the first week of October because of the end of the fiscal year. Coordinate your pay estimates around this time period.

1.9. PROGRESS PAYMENTS

1.9.A. Per FAR Clause 52.232-5 Payments under Fixed-Price Construction Contracts, the Government shall make progress payments monthly as the work proceeds on estimates of work accomplished.

1.9.B. The Government Inspector and the Contractor's Superintendent or CQCSM shall meet prior to the Contractor's submittal of their pay estimate and discuss billable quantities/percentage of work completed. It is expected that the Inspector and the Contractor will reach concurrence on the billable items. Once

billable items are agreed upon, both individuals shall sign the Draft 119B. Both parties shall keep copies of the signed document for their records.

1.9.C. After billable items are agreed upon but prior to submission of the pay estimate to IPP, the Contractor shall submit a full pay estimate package to COR for review. Any comments or corrections noted by the COR shall be addressed in the pay estimate package. Corrections to the pay estimate shall be provided to the COR for verification before submission to IPP. Once all comments have been addressed, the pay estimate may be submitted to IPP.

1. A draft review will ensure the pay estimate package submitted to IPP will not require rejection and will assist in determining any retainage and/or deductions required for the pay estimate.

1.10. USIBWC PAY ESTIMATE PROCEDURES

1.10.A. The pay estimate procedures shall be discussed in detail with the Contractor at the Preconstruction Conference. The Contractor shall submit complete pay estimate packets including all required supporting documents in order to receive timely payments. A complete pay estimate includes all of the items detailed in this Section.

1. Only send the following items to IPP at www.ipp.for.fiscal.treasury.gov, the COR, and the CO:
   a. IBWC Form 119, Pay Estimate - Contract Performance
   b. IBWC Form 119B, Pay Estimate Quantities
   c. IBWC Form 152, Pay Item Breakdown
   d. IBWC Form 154, Subcontract's Payment Breakdown
   e. IBWC Form 239, Schedule of Materials, if needed
   f. Supporting paid invoices if billing for stored materials on Form 239
2. In a separate email, send the complete pay estimate to the COR, the Government Inspector, and the CO. The complete pay estimate shall contain:
   a. IBWC Form 119, Pay Estimate - Contract Performance
   b. IBWC Form 119B, Pay Estimate Quantities
   c. IBWC Form 152, Pay Item Breakdown
   d. IBWC Form 154, Subcontract's Payment Breakdown
   e. IBWC Form 239, Schedule of Materials, if needed
   f. Supporting paid invoices if billing for stored materials on Form 239
   g. IBWC Form 153, Monthly Exposure and First Aid Report (for each Contractor/sub)
   h. IBWC Form 161, Actual Weather and Working Conditions Report
   i. Updated Project Schedule (both pdf and native file with written narrative)
   j. IBWC Form 149, Schedule Analysis
   k. IBWC Form 148, Log of Photographs with digital photos
   l. IBWC Form 233a, Updated RFI Log
   m. IBWC Form 147, Updated Submittal Register
   n. Updated S Curve with associated Excel tables
   o. AutoCAD files and other Record Drawing documents
   p. Survey data to support billed unit prices

1.10.B. IBWC Form 119A-Contractor Payment Estimate Inventory
This is an optional form. The form provides a checklist of all items required for a complete pay estimate. It is available as an aid in making sure all items of your pay estimate are provided.

1.10.C. Cover Letter
The cover letter shall include the Contract number, Contract name, pay estimate number, pay estimate period, and total earnings to date. The cover letter shall also include the full amount requested along with any pertinent information related to this pay estimate. The cover letter shall include a list of retention held

by the Contractor from each subcontractor and supplier. The list shall include pay estimate number, retention for this period, releases for this period, and total retention.

1.10.D. IBWC Form 119-Payment Estimate-Contract Performance
IBWC Form 119 is the Contractor's invoice to the Government. All other forms provided are backup data. The Contractor shall verify that the header data is correct and then sign this form to certify that this is a valid payment against the Contract.

1.10.E. IBWC Form 119B-Pay Estimate Quantities
All Contract line items (CLINs) shall be listed on Form 119B. When partial payments are required for lump sum items, the billable work defined in the compliance confirmed Schedule of Values (Section 01.20.00) shall be listed instead of the lump sum CLIN.

1. This form is what is used by the Government to pay the Contractor. This report needs to be accurate and up to date.
2. Whenever possible, the Contractor shall bill in whole number increments.
3. Place the words "stored materials" in the CLIN/work description for which stored materials have been billed. Additionally, verify that when stored materials have been completely incorporated into the project, that the words "stored materials" are deleted.
4. Contractors often want to charge a unit of "1" with a unit price matching the invoice for stored materials. This is incorrect. A line item's unit price cannot change; this is a Contractual value. The unit must be adjusted so that "unit" times "unit price" = "invoiced amount." Many times this results in irregular units carried out to several decimal places.

1.10.F. IBWC Form 152-Pay Item Breakdown
The same CLINs/work items shall be listed on Form 152 as on Form 119B. All columns shall be filled out to represent the current project status.

1. Place the words "stored materials" in the CLIN/work description for which stored materials have been billed. Additionally, verify that when stored materials have been completely incorporated into the project, that the words "stored materials" are deleted.

1.10.G. IBWC Form 154-Subcontractors' Payment Breakdown
The Contractor must fill out this form in its entirety. The Contractor shall ensure that SF-1413s have been provided to the COR for all subcontractors used on this project and that subcontractors have been checked against the Government's debarment list.

1. FAR 52.222-11 requires that all subcontractors, at any tier, are required to submit fully executed SF-1413s upon award of a subcontract.
2. FAR 52.209-6 requires Contractors to verify that they are not entering into subcontracts in excess of $30,000 with Contractors who have been debarred, suspended, or proposed for debarment by the Federal Government.
3. Do not include suppliers on this form; only include subcontractors.

1.10.H. IBWC Form 239-Schedule of Materials
This form is only required in a pay estimate if the Contractor is requesting or has requested payment for stored materials. It is a general policy of USIBWC to allow payment for stored materials which will be incorporated into the final work provided that the materials are properly stored at the worksite, have been addressed by a submittal evidencing compliance with the Contract, and are supported by invoices indicating the project (by name or Contract number), material description, quantity, and cost of each type of material.

1. All materials to be authorized for payment, both onsite and off, must be inventoried and be accounted for continuously until incorporated into the work.
2. The Contractor must submit copies of invoices and other evidence of payment with the initial request for payment of stored materials.

3. The CLINs/work being billed for stored materials on Forms 119B and 152 must have the words "stored materials" placed in the CLIN/work description.

1.10.I. IBWC Form 153-Monthly Exposure and First Aid Report

1. A separate Form 153 shall be submitted for the Contractor and for every subcontractor on the jobsite. This is required for all Contract periods when workers are onsite. See Section 01.35.23 for additional details on this form.
2. Subcontractor forms shall be signed by an authorized party of each subcontractor.

1.10.J. IBWC Form 161-Actual Weather and working Conditions Report

Weather days documentation is to be performed each month as part of the pay estimate processing. The Contractor and the Government Inspector should agree on the number of adverse weather days each month. Upon acknowledgment of the Notice to Proceed and continuing throughout the end of the Contract on a monthly basis, the Contractor shall record actual adverse weather days on a calendar day basis (including weekends and holidays).

1. The Contractual basis for granting time extensions due to inclement weather is in Contract Clause 52.249-10, entitled Default (Fixed-Price Construction). Administration of the Default Clause is prescribed in Time Extensions for Unusually Severe Weather. This special condition provides a listing of monthly anticipated adverse weather calendar days for the geographical location of the project. For each month, the number of adverse weather calendar days are to be noted on the documentation form until the number of anticipated calendar weather days is expended. After the anticipated calendar days are expended, then adverse weather working days are recorded as lost days due to weather. At the end of the monthly documentation, this total number of working days lost (due to adverse weather) is converted on the record form into calendar days for granting a time extension. The conversion factor is determined as a ratio of the number of days in a week (7) to the number of workdays in a week. For example, if a Contractor works a normal 5-day workweek, the conversion factor is 7/5; if a Contractor works a 6-day workweek, the conversion factor is 7/6.
2. The "Ant. Delay" line of IBWC Form 161 shall be filled in with the Monthly Anticipated Adverse Weather Calendar Days as listed in Contract clause entitled Time Extensions for Unusually Severe Weather.
3. In recording whether a day is lost due to adverse weather, it is important to realize that a whole day is lost if work is prevented for 50% or more of the day and the work is critical to timely completion of the project (i.e., critical path work).
4. For each month, the number of adverse weather calendar days are to be noted on the documentation form until the number of anticipated calendar weather days is expended. After the anticipated calendar days are expended, only adverse weather working days are recorded as lost days due to adverse weather. At the end of the monthly documentation, this total number of working days lost (due to adverse weather) is converted on the record form into calendar days for granting a time extension. If justified a time extension due to adverse weather, the COR will forward the documentation record to the CO. The Contractor cannot assume that just because IBWC Form 161 is completed that these days are automatically added to the Contract. A Contract modification must occur before the time is officially added to the Contract.

1.10.K. Progress Schedule

An updated progress schedule shall be submitted with the Contractor's pay estimate. Section 01.32.16 2.4 details the requirements of the Progress Schedule. This schedule is not considered to be a submittal.

1. The date to be used for calculating progress shall be the last work day of the pay estimate period.

1.10.L. IBWC Form 149-Schedule Analysis

Complete this form using data from your updated progress schedule and the project's compliance confirmed baseline schedule.

1.10.M. Construction Photos and IBWC Form 148-Log of Photographic Documentation

1. Photos shall be correctly named per Section 01.32.33 2.2.D.
2. All photos provided by the Contractor shall be accurately listed.
3. The photographs, files, and Form 148 are not considered to be a submittal.
4. See Section 01.32.33 3.2. for more details.

1.10.N. IBWC Form 233A-RFI Log

A complete and up-to-date RFI log shall be submitted with the Contractor's pay estimate. Section 01.31.00 details the requirements of the RFI log. This RFI log is not considered to be a submittal.

1. The RFI Log shall be current through the last day of the pay estimate period.

1.10.O. IBWC Form 147-Submittal Register

A complete and up-to-date submittal register shall be submitted with the Contractor's pay estimate. Section 01.33.00 details the requirements of the submittal register. This submittal register is not considered to be a submittal.

1. The submittal register shall be current through the last day of the pay estimate period.

1.10.P. Updated S Curve

An updated S Curve graph with associated Excel tables shall be submitted with the Contractor's pay estimate. Section 01.20.00 details the requirements of the S Curve and tables. This S Curve is not considered to be a submittal.

1.10.Q. Record Drawings

Record Drawings shall be kept up to date. The Contractor shall submit a copy of the current AutoCAD files that include up to date survey data and surfaces, and any applicable pdfs with their pay estimates and shall make available all hardcopy notes, drawings, and write ups detailing items that will be included in the Record Drawings. Section 01.78.39 has more details.

1.10.R. Survey Data

When measurement and payment require surveyed quantities, provide up to date surveyed quantities signed and stamped by a surveyor.

1.10.S. Other Documents

The Contractor shall ensure that all Daily Contractor Quality Control Reports (IBWC Form 163), Preparatory Inspection Checklists (IBWC Form 162), Initial Inspection Checklists (IBWC Form 166), Weekly Toolbox Safety Meetings (IBWC Form 164), Concrete Test Results Summaries (IBWC Form 235), Concrete Placement Cards (IBWC Form 238), Nuclear Gauge Test Results (IBWC Form 239), Nuclear Gauge Moisture Calibration (IBWC Form 240), Nuclear Gauge Standard Count (IBWC Form 241), and other safety, environmental, and quality control test reports have been provided to the COR for the time period covered by the pay estimate. Failure of the Contractor to submit required quality control, safety, and environmental data to the Government can result in retainage by the Government of up to 10% of the pay estimate.

1.11. FINAL PAYMENT

The Government shall pay the final amount due to the Contractor under this Contract after the completion and acceptance by the Government of all work, after the Contractor submits a final pay estimate, and after the Contractor submits a release of all claims against the Government (reference FAR 52-232-5(h)).

1.12. IPP NOTES

1.12.A. Some Contractors have had issues getting IPP to show the correct billing amounts on lump sum CLINS. Here are two tricks that Contractors have mentioned often work:

1. Reverse the Amount and the Quantity
   It defaults to quantity of "1" and the unit price is the total of the line item (e.g. 1,555,555.00). Instead of trying to figure out the "decimal amount" to bill the current invoice, reverse it with the quantity at "1,555,555.00" and a unit price of "1.00."
2. Percent to Bill
   You can adjust the dollar amount once you put in the "percent you want to bill," but you have to always have to double check to see if it goes back to the original calculated amount.

1.12.B. If you still cannot get the correct billing amount to show in IPP, you will need to contact the IPP help desk.

--End of Section--

SECTION 01.29.15
CERTIFIED PAYROLL

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Record Documents 2
1.5. Measurement and Payment 2
1.6. General 2
1.7. Definitions 3
1.8. Project Wages 3
1.9. Certified Payrolls 3
1.10. Payroll Deductions 4
1.11. Paid Sick Leave 5
1.12. Borrow Pits 5
Part 2 - Execution 5
2.1. Certified Payrolls 5
--End of Section-- 5

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.60.00-USIBWC Forms and Standard Documents

1.2.B. Section 00.70.00-Delivery of Data to USIBWC

1.3. REFERENCE STANDARDS

1.3.A. Code of Federal Regulations (CFR)

1. 29 CFR Parts 1, 3, 5, 6, 7, 10, and 13

1.3.B. Executive Order (EO)

1. Equal Employment Opportunity, EO 11246
2. Establishing Paid Sick Leave for Federal Contractors, EO 13673
3. Increasing Minimum Wage for Federal Contractors, EO 14026

1.3.C. Federal Acquisition Regulation (FAR)

1. FAR 22.403-2 Wages, Fringe Benefits, and Overtime
2. FAR 22.403-6 Department of Labor Regulations Involving Construction
3. FAR Subpart 22.21 - Establishing Paid Sick Leave For Federal Contractors

1.3.D. United States Code (USC)

1. Age Discrimination in Employment Act of 1967, 29 USC 634
2. Americans with Disabilities Act (ADA) of 1990, 42 USC 12101 et seq.
3. Title VII of the Civil Rights Act of 1964, 42 USC Chapter 21
4. Contract Work Hours and Safety Standards Act (CWHSSA), 40 USC 3701-3708

5. Copeland "Anti-Kickback" Act, 18 USC 874
6. Davis Bacon Act (DBA), 40 USC 3141-3148
7. Fair Labor Standards Act Of 1938 (FLSA), 29 USC 201, et. seq.
8. Family and Medical Leave Act, 29 USC Chapter 28
9. National Labor Relations Act, 29 USC 151-169
10. Occupational Safety and Health Act (OSHA) of 1970, 29 USC Chapter 15
11. Section 503 of the Rehabilitation Act of 1973, 29 USC 701
12. Vietnam Era Veterans' Readjustment Assistance Act of 1974, 38 USC 4212

1.4. RECORD DOCUMENTS

1.4.A. Required documents to be provided to Government in this Section include:

1. Certified payrolls for all contractors and subcontractors onsite that fall under Davis Bacon Act.
2. IBWC Forms 227, Wage Deduction Authorization

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL

1.6.A. This Section is used to promote procurement with responsible sources who comply with labor laws. Labor laws are designed to promote safe, healthy, fair, and effective workplaces.

1.6.B. Work on this project shall meet the labor regulations delineated in FAR 22.403-6 which includes Title 29, Subtitle A, Code of Federal Regulations, Parts 1, 3, 5, 6, 7, 10, and 13.

1.6.C. Work on this project shall meet the labor law requirements of:

1. Age Discrimination in Employment Act of 1967
2. Americans with Disabilities Act (ADA) of 1990
3. Title VII of the Civil Rights Act of 1964
4. Contract Work Hours and Safety Standards Act (CWHSSA)
5. Copeland "Anti-Kickback" Act
6. Davis Bacon Act (DBA) including Construction Wage Rate Requirements under 40 USC Chapter 31 and under 29 CFR Parts 1, 3, and 5
7. Fair Labor Standards Act Of 1938 (FLSA)
8. Family and Medical Leave Act
9. National Labor Relations Act
10. Occupational Safety and Health Act (OSHA) of 1970
11. Section 503 of the Rehabilitation Act of 1973
12. Vietnam Era Veterans' Readjustment Assistance Act of 1974
13. 29 CFR Parts 1, 3, and 5
14. Equal Employment Opportunity, EO 11246
15. Establishing Paid Sick Leave for Federal Contractors, EO 13673
16. Increasing Minimum Wage for Federal Contractors, EO 14026

1.7. DEFINITIONS

1.7.A. The term "laborer or mechanic" is defined in 29 CFR 5.2(m) and includes at least those workers whose duties are manual or physical in nature (including those workers who use tools or who are performing the work of a trade), as distinguished from mental or managerial. The term laborer or mechanic includes apprentices, trainees, helpers, and, in the case of contracts subject to the Contract Work Hours and Safety Standards Act, watchmen or guards. The term does not apply to workers whose duties are primarily administrative, executive, or clerical, rather than manual. Working foremen who devote more than 20% of their time during a workweek to mechanic or laborer duties, and who do not meet the criteria of 29 CFR Part 541, are laborers and mechanics for the time so spent.

1.7.B. The term "site of the work" is defined in 29 CFR 5.2(l) and includes the physical place or places where the work called for in the Contract will remain and any other site where a significant portion of the work is constructed, provided that such site is established specifically for the performance of this project.

1.8. PROJECT WAGES

1.8.A. Wages equal to or exceeding the Contract's DBA wages shall be paid to all laborers and mechanics working at the site of work.

1.8.B. Wages equal to or exceeding the current Federal minimum wage shall be paid to all workers performing work on or in connection with this Contract. "In connection with" this Contract has been defined by DOL as performing at least 20% of their hours in any given week related to this Contract.

1.8.C. The Contractor shall be aware that the Federal minimum wage is often higher than many DBA labor categories. The Contractor shall pay the higher of the Federal minimum wage or the Davis-Bacon wage rate.

1.8.D. The Contractor shall also be aware that the Federal minimum wage, unlike the DBA wage, can only be met through paid wages and not by any payments as defined in FAR 22.406-2(a)(2) or (a)(3) to bona fide plans or programs.

1.8.E. The Contractor shall also be aware that the Federal minimum wage is adjusted each calendar year. The new rate is usually published in September to become effective in January. While DBA wage rates remain constant throughout the life of the Contract, the Contractor is required to abide by the new Federal minimum wage that is published each year.

1.9. CERTIFIED PAYROLLS

1.9.A. All Contractor payrolls shall meet the requirements of the Davis-Bacon Act (DBA), the Fair Labor Standards Act (FLSA), the Contract Work Hours and Safety Standards Act (CWHSSA), and the Copeland "Anti-Kickback" Act in effect at the time this Contract was executed as well as the current Federal minimum wage.

1. The FAR now references "Construction Wage Rate Requirements" or "Wage Rate Requirements (Construction)" where it previously referenced DBA. Construction Wage Rate Requirements are covered by 40 USC Chapter 31. DBA is 40 USC Chapter 31 Subchapter IV.
2. References to DBA in these Technical Specifications shall not limit contract clause and FAR references to "Construction Wage Rate Requirements" or "Wage Rate Requirements (Construction)."

1.9.B. The Contractor shall submit weekly, for each week in which any Contract work is performed, a copy of all payrolls. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers shall not be included on weekly submittals. Instead, the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number).

1. Payrolls shall be numbered consecutively for each week.

2. All weeks shall be accounted for with payroll reports from the first payroll to the final payroll.

1.9.C. The required weekly payroll information may be submitted in any form desired. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors. Optional Form WH-347 is a Wage and Hour form available to Contractors on www.dol.gov/whd/forms/wh347.pdf.

1. During weeks in which no Contract work is performed by the Contractor or subcontractors, a Nonperformance Payroll Report (IBWC Form 228) may be submitted in lieu of WH-347 or certified payroll report.

1.9.D. Each payroll submitted shall be accompanied by a Statement of Compliance, signed by the Contractor, subcontractor, or their agent who pays or supervises the payment of the persons employed under the Contract. This Statement of Compliance is why the payroll is usually referred to as "certified payroll."

1. The Contractor may use IBWC Form 226 (Statement of Labor Compliance) to fulfill this requirement.

1.9.E. If the Contractor makes any payments as defined in FAR 22.406-2(a)(2) or (a)(3) to bona fide plans or programs and they exclude those payments in overtime calculations, include a breakdown of said Contractor paid "hourly cash equivalent" payments (FAR 22.406-2(b)(2)).

1.9.F. Department of Labor's (DOL) administrative policy excludes bona fide owner-operators of trucks who are independent Contractors from DBA/CWHSSA provisions concerning their own hours of work and rate(s) of pay. These truck "owner-operators" must be reported on weekly payrolls, but the payrolls do not need to show the hours worked or rates: only the notation "Owner-operator." Note that any laborers or mechanics, including truck drivers, employed by the owner-operator/independent Contractor are subject to DBA/CWHSSA provisions in the usual manner.

1. The Contractor shall complete IBWC Form 232, Owner-Operator Payroll Listing, for all owner-operator trucks on the jobsite each week.
2. Each owner-operator shall complete an IBWC Form 231. These forms shall be provided to the COR the first week that any owner-operator is on the site.

1.10. PAYROLL DEDUCTIONS

1.10.A. The Contractor must submit IBWC Form 227 with the first payroll of any Davis-Bacon covered employee prior to taking deductions from their wages.

1.10.B. The following deductions from Davis-Bacon wages are allowed by law:

1. Deductions for social security or federal or state income tax withholding.
2. Deductions for bona fide prepayment of wages.
3. Deductions for court ordered payments.
4. Deductions for contributions to fringe benefit plans, provided that the deduction is not prohibited by law, that it is either voluntarily consented to by the employee in writing in advance of the time the work is done or provided for in a collective bargaining agreement, that no profit or other benefit is obtained by the Contractor and that the deduction serves the convenience of the employee.
5. Deductions for purchase of US savings bonds when voluntarily authorized by the employee.
6. Deductions to repay loans or to purchase shares in a credit union.
7. Deductions voluntarily authorized for contributions to organizations such as the Red Cross, United Way, or similar charitable organizations.
8. Deductions to pay union initiation fees and membership dues, not including fines or special assessments, provided that a collective bargaining agreement provides for such deductions and the deductions are not otherwise prohibited by law.
9. Deductions for the reasonable cost of board, lodging, or other facilities.

10. Deductions for the cost of safety equipment purchased by the employee if such equipment is not required by law to be furnished by the employer, if such deduction is not prohibited by FLSA or other law and if the cost on which the deduction is based does not exceed the actual cost to the employer.

1.11. PAID SICK LEAVE

Under Executive Order 13706 and detailed in FAR Subpart 22.21, all employees covered by FLSA or DBA, including employees exempt from FLSA's minimum wage and overtime provisions, are to be paid a minimum of 1 hour of sick leave for every 30 hours worked on, or in connection with, this Contract.

1.12. BORROW PITS

1.12.A. The Contractor is notified that DOL considers borrow pits opened specifically for and dedicated to USIBWC projects that are located near the project to be included in the definition of "site of work."

1.12.B. Commercial borrow pits or material suppliers that are open to the public prior to the bid opening are not included in the site of work.

PART 2 - EXECUTION

2.1. CERTIFIED PAYROLLS

2.1.A. The Contractor shall submit weekly a copy of all payrolls and shall submit copies of IBWC Forms 227 to the COR. These files shall be submitted as electronic, pdf, copies. The Contractor shall ensure that the electronic copies are legible and that they meet Section 00.60.00 1.5. and Section 00.70.00 1.6.

2.1.B. Payrolls for each week by each Contractor and subcontractor as well as IBWC Form 227 shall all be submitted in separate pdf files.

2.1.C. Use consistent naming for like documents. Once the filename for a file type has been established, do not change it. Recommended filename terms include:

1. Contractor Name CPR ### WE 12-13-2022.pdf for payrolls.
2. Last Name, First Name Form 227 191BWCxxCxxxx 20221213.pdf for Form 227. Date shall be date form was signed.

--End of Section--

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SECTION 01.31.00
PROJECT COORDINATION

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General....1
1.1. Section Includes....1
1.2. Related Requirements....1
1.3. Measurement and Payment....1
1.4. Coordination....1
1.5. Contractor Responsibilities....1
1.6. Project Meetings....2
1.7. Requests for Information (RFI)....3
--End of Section--....5

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.32.16-Construction Progress Schedule

1.2.B. Section 01.45.00-Quality Control

1.3. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.4. COORDINATION

1.4.A. Construction operations shall be coordinated to ensure efficient and orderly installation of each part of the work. In addition to a Project Superintendent, the Contractor shall provide other administrative and supervisory personnel as required for proper coordination and administration of the work.

1.4.B. The Contractor's Project Superintendent shall be available to the Government during business hours, as well as in emergencies. Other coordination responsibilities and activities required to be provided by the Contractor includes the following:

1. The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. The Government, its workers and Contractors and others, shall have the right to operate within or adjacent to the Construction site to perform such work.
2. In accordance with the provisions and timeframes stated in Section 01.32.16, the Contractor shall submit to the COR a proposed Progress Schedule. This schedule shall be in the form as described in Section 01.32.16 and shall reflect all coordination efforts of the work under this Contract.

1.4.C. The Contractor shall notify the construction inspector and the COR within 24 hours of any personnel changes in the Project Superintendent, Project Manager, any Field Superintendents, the Quality Control Manager, or the Safety and Health Officer.

1.5. CONTRACTOR RESPONSIBILITIES

The Contractor is fully responsible for meeting all requirements of this Contract including the Technical Specifications and the Contract Drawings. The duty to meet these requirements is not delegable.

1.6. PROJECT MEETINGS

1.6.A. All meetings, unless otherwise directed, shall be scheduled and conducted at the Project site or the local USIBWC office; weekly progress meetings shall be held at the Project site or the Contractor's office.

1.6.B. The COR shall inform participants, others involved, and individuals whose presence is required, of date and time of each meeting. The COR shall prepare the meeting agenda and distribute to all invited attendees.

1.6.C. The Government shall record significant discussions and agreements achieved and distribute the meeting minutes to everyone concerned, within 7 calendar days of the meeting.

1.6.D. The following meetings are anticipated, and the Contractor shall identify them in the Progress schedule:

1. Preconstruction Conference
   a. A preconstruction conference shall be scheduled by the COR prior to the start of construction. Unless another date is agreed with the Contractor, the preconstruction conference shall be within 15 calendar days after Government receipt of acceptable payment and performance bonds and proof of insurance.
   b. USIBWC prefers to issue the Notice to Proceed immediately after the preconstruction conference.
   c. The preconstruction conference will be held at USIBWC Amistad Dam Field Office at 670 Texas Spur 349, Del Rio, Texas.
   d. The purpose of the meeting is to introduce project personnel and review responsibilities, and procedures required during construction.
   e. The Contractor shall provide a copy of the current draft Progress Schedule as specified under Section 01.32.16.
   f. Attendees
      All participants at the conference shall be familiar with the Contract and construction requirements and authorized to conclude matters relating to the work. Attendees shall include, at a minimum:
      (1) Authorized representatives of the Government (including the COR and Inspector)
      (2) Contractor’s Project Manager
      (3) Contractor's Superintendent
      (4) Contractor's QCSM
      (5) Contractor's SSHO
      (6) Major subcontractors, suppliers, or other concerned party representatives, as appropriate
   g. Agenda
      Discussion of items of significance that could affect the work and project, including the following:
      (1) Introduction/designation of key personnel and their duties
      (2) Review of the current draft progress schedule, phasing, critical work sequencing, and long-lead items
      (3) Review of procedures for handling and processing field decisions
      (4) RFIs
      (5) Testing and inspection
      (6) Applications for payment
      (7) Submittals
      (8) Preparation of record documents
      (9) Use of right-of-way
      (10) Work restrictions
      (11) USIBWC and other's occupancy requirements
      (12) Responsibilities for temporary facilities and controls
      (13) Construction waste management and recycling

(14) Parking, work areas, and storage areas
(15) Equipment and materials deliveries and priorities
(16) Safety and first aid
(17) Security
(18) Maintenance of project site
(19) Working hours

h. Meeting Minutes
The Government will record the discussions of the meeting and distribute the minutes.

2. Quality Control Coordination Meeting (see Section 01.45.00 1.10.)
   a. This meeting is usually held immediately after the Preconstruction Conference. If the meeting is held at a separate time, it will be held at USIBWC Amistad Dam Field Office at 670 Texas Spur 349, Del Rio, Texas or the project site.
   b. The purpose of the meeting is to discuss the Contractor's quality control system. During the meeting, a mutual understanding of the QC system details shall be developed.
   c. Attendees shall include, at a minimum:
      (1) Authorized representatives of the Government (including the COR and Inspector)
      (2) Contractor's Project Manager or Owner
      (3) Contractor's Superintendent
      (4) Contractor's QCSM
      (5) Contractor's SSHO
   d. Meeting Minutes
      The Government will record the discussions of the meeting and distribute the minutes.
3. Progress Meetings
   a. The COR will schedule weekly progress meetings once the Contractor has mobilized onsite. The Inspector or the COR will conduct and issue minutes of the meetings. Meeting minutes will become official Contract correspondence.
      (1) The Government may call other meetings on an "as needed" basis.
   b. The meetings shall include, at a minimum:
      (1) The Government
      (2) Contractor's Project Manager
      (3) Contractor's Field Superintendent(s)
      (4) Contractor's Quality Control Manager
   c. The purpose of these meetings shall be to analyze the progress of the work of the Contractor, resolve conflicts, and in general coordinate the operation of all organizations active at the project site.
   d. Work production versus the current schedule, environmental issues, submittal status, RFIs, punch list (Form 150), deficiencies (Form 150), pay estimates, certified payroll, daily QC reports, work progress since the prior meeting, upcoming work plan with Contractor's look ahead schedule, and any other items of note will be discussed.
   e. The Government may call other meetings on an "as needed" basis.
   f. All meetings will be held at the project site, the Contractor's field office, USIBWC Amistad Dam Field Office at 670 Texas Spur 349, Del Rio, Texas, or other mutually agreed upon location.

1.7. REQUESTS FOR INFORMATION (RFI)

1.7.A. The Contract documents are prepared with great care, but no set of documents are perfect. When it is necessary to confirm the interpretation of a detail, specification, or note on Contract items or to secure a

documented directive or clarification from the Government in order to continue work, the Contractor shall prepare and submit a Request for Information (RFI).

1. Whenever possible, details and clarifications shall take place at the lowest level possible, indicating via discussions, meetings, and emails.
2. Requests for documents shall not be submitted under the RFI process.

1.7.B. All RFIs shall be provided to the COR and Government Inspector in pdf with a scan of the signed original or including an electronic signature. RFIs without a signature will not be accepted.

1.7.C. Content of the RFI
The RFI shall be detailed on IBWC Form 233 and shall include a detailed, legible description of item needing interpretation and the following:

1. Project name
2. Date
3. Name of Contractor
4. RFI number, numbered sequentially
5. Section number, title, and related paragraphs, as appropriate
6. Drawing number and detail references, as appropriate
7. Field dimensions and conditions, as appropriate
8. Contractor's suggested solution(s)
   If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
9. Contractor's signature
   RFIs without a signature will not be accepted by the COR.
10. Attachments
    Include drawings, descriptions, measurements, photos, product data, shop drawings and other information necessary to fully describe items needing interpretation. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references and details of affected materials, assemblies, and attachments.

1.7.D. Government Action

1. The COR will review each RFI, determine action required, and return a response to the Contractor within 5 business days.
2. If the Contractor submits more than 4 RFIs within a 72-hour period, the Government will add an additional 2 days to each RFI review for all RFIs that the Government has in possession at said time. The Contractor shall incorporate this rule within their baseline progress schedule and subsequent progress schedule updates.
3. During the period of December 15 through December 31, Contractor should expect longer than usual review times. RFIs submitted during this time period will be reviewed and returned before January 6. Contractor shall properly plan the submission of RFIs in advance of this time period.
4. RFI questions that require review by the designer will take longer than 5 business days for a response. When review by the designer is required, the COR will notify the Contractor. The Contractor and the COR shall coordinate work to minimize any scheduling impacts while the designer reviews the RFI in question.

1.7.E. RFI Log

The Contractor shall prepare and maintain IBWC Form 233A, RFI log, organized by RFI number to be reviewed at every weekly meeting and submitted with the Contractor's completed pay estimate. The RFI log will contain, at a minimum, the following:

1. Project name
2. Name and address of Contractor
3. RFI number including RFIs that were dropped and not submitted.
4. RFI description
5. Date the RFI was submitted
6. Date Government response was received
7. Identification of related Construction modification, Claim, Proposal Request, or other disposition, as appropriate.

1.7.F. Misuse of RFI Process

In the event the Contractor misuses the RFI process by requesting information that is already available from the Contract documents or by repeatedly making the same or similar inquiry where only the location varies, the COR will deduct $150 from the Contract amount to cover the cost of processing the RFI.

--End of Section--

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SECTION 01.32.16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 1
1.5. Measurement and Payment 1
1.6. Description / Purpose 2
1.7. Schedule Requirements 2
1.8. Float 2
1.9. Schedule Restrictions 2
Part 2 - Products 3
2.1. Schedule Requirements 3
2.2. Recovery Schedule 4
2.3. Look Ahead Schedules 5
2.4. Pay Estimate Schedule Updates 5
Part 3 - Execution 6
3.1. Contractor Requested Baseline Schedule Revision 6
3.2. Time Impact Analysis for Contract Modifications, Changes, Delays, and Contractor Requests 7
--End of Section-- 8

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.20.00-Measurement and Payment

1.2.B. Section 01.33.00-Submittal Procedures

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR 52.236-15, Schedules for Construction Contracts

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Baseline Schedule
2. Qualifications of Scheduling Personnel

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. DESCRIPTION / PURPOSE

1.6.A. Pursuant to the Contract clause entitled "Construction Program" and FAR 52.236-15, Schedules for Construction Contracts, the Contractor shall prepare a schedule which shall reflect completion of all work under this Contract and shall include allotted time for related construction activities by other agencies within the allotted Contract period.

1.6.B. The first compliance confirmed schedule that properly shows all construction activities within the Contract period shall be the baseline schedule. This may sometimes be referred to as the base progress schedule in the Technical Specifications.

1. A compliance confirmed baseline schedule shall not later be found defective simply because it did not follow all requirements in this Section.

1.6.C. This schedule shall be prepared using the Critical Path Method (CPM). The Contractor shall show their actual planned sequence and duration for all work required to complete this project. The baseline schedule is required to assure adequate planning and execution of the work and to assist the Government in appraising the reasonableness of the proposed schedule and evaluating progress of the work both before and during construction.

1. Jobsite mobilization will not be permitted to take place by the Contractor until the baseline schedule is compliance confirmed by the Government.

1.7. SCHEDULE REQUIREMENTS

1.7.A. Schedule submittals for compliance confirmation shall include half sized pdf file and the schedule file in the native format of the scheduling software.

1. Half sized sets shall be ANSI B (11" x 17"). The schedule shall be drawn so that half sized sets are fully legible, and that diagrams and notes can be clearly understood.
2. Whenever the schedule requires more than one sheet of paper, regardless of size, each sheet shall have fully identified columns, rows, titles, and dates.
3. All abbreviations shall be defined.
4. Each schedule shall show a revision date.

1.7.B. The monthly schedule update shall include 1 half size schedule (pdf) and an electronic native file.

1.8. FLOAT

1.8.A. Float is not time for the exclusive use or benefit of either the Government or the Contractor but must be used in the best interest of completing the project on time.

1.8.B. The Government shall not be responsible for any delays nor for the Contractor's extended overhead if delay time can be absorbed in float. Nor shall the Government be responsible for payment for any delays or for Contractor's extended overhead which exceed total float unless the delay is government-caused. The Government shall only be responsible for government-caused delays to the extent they exceed total float without the presence of any concurrent non-government-caused delay.

1.8.C. A delay to activities with available float is considered a non-critical delay. Neither party is entitled to a time extension or to extended overhead unless a critical delay, or the accumulation of non-critical delays, caused by the other party impacts the project's critical path.

1.9. SCHEDULE RESTRICTIONS

1.9.A. Many portions of these Technical Specifications require specific work be completed prior to the next portion of work commencing (e.g. surveying). Other portions require time limits before moving to next portion of work (e.g. concrete curing). The project schedule shall take all of these restrictions into account.

1.9.B. Failure to take all schedule restrictions into account or failure to schedule work as required in these Technical Specifications shall be a Contractor caused delay.

PART 2 - PRODUCTS

2.1. SCHEDULE REQUIREMENTS

2.1.A. Baseline Schedule
Prepare baseline schedule using a computerized, resource-loaded**,** time-scaled CPM network analysis diagram.

1. A complete baseline schedule shall be submitted.
   a. If requested by the Government, the Contractor shall participate in a review and evaluation of the proposed Schedule by the Government. Any revisions necessary as a result of this review shall be submitted for compliance confirmation within 7 calendar days of the review.
   b. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Government's compliance confirmation of the schedule.
2. Upon compliance confirmation of the baseline schedule, save the schedule as a baseline and update on a monthly basis. The progress schedule update will be used to evaluate the Contractor's applications for payment.
3. Establish procedures for monitoring and updating progress schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
4. Progress shall be determined by work performed not by items billed.

2.1.B. Baseline Schedule Preparation
Prepare a list of all activities required to complete the work. The baseline schedule shall include all planned work activities and sequences and show work completion within the number of calendar days specified in the Contract.

1. Activities
   a. Indicate the estimated duration, sequence requirements, and relationship of each activity in relation to other activities.
   b. Describe each activity on the schedule using:
      (1) A logical activity number utilizing an alphanumeric designation system tied to the sequence of work.
      (2) A concise description of the work represented by the activity.
      (3) An activity duration in whole calendar days.
2. Organize the activities so that plots no larger than ANSI B (11" x 17") of the schedule may be produced.
3. Critical Path Activities
   Clearly and accurately identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
4. Processing
   Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract time.
5. The baseline schedule as developed shall show the sequence and interdependence of activities required for complete performance of the work.
   a. Ensure all work sequences are logical, and the baseline schedule shows a coordinated plan of the work.
   b. Show a predecessor and successor for each activity.

6. Resource loading of each activity shall include all personnel by labor category and equipment type and capacity proposed to complete the activity in the duration shown. Resource loading may be accomplished on the graphical schedule or may be provided in a separate narrative.
7. Consider seasonal weather conditions in planning and scheduling all work influenced by high and low ambient temperatures, wind, or precipitation to ensure completion of all work within the Contract time.
   a. Ensure that weather days as listed in Contract clause "Time Extensions for Unusually Severe Weather" are included in the schedule.
8. Timeframe
   Proposed duration assigned to each activity shall be the Contractor's best estimate of time required to complete the activity considering the scope and resources planned for the activity.
   a. Incorporate major material procurements, known utility relocations, and other activities (submittals, Government review of submittals, anticipated weather delays, final inspections, etc.) that may affect the completion of the Contract in the Schedule.
   b. Show a beginning date, ending date, and duration in number of calendar days for each activity.
   c. Show an estimated production rate per calendar day for each work activity.
   d. Show float for each work activity.
9. Constraints
   Include constraints and work restrictions indicated in the Contract documents and as follows in schedule and show how the sequence of work is affected.
10. Milestones
    Include milestones indicated in the Contract documents in schedule, including, but not limited to:
    a. Notice to Proceed
    b. Substantial Completion
    c. Completion of major items
    d. Completion of items of which beginning work on other items is dependent
    e. Other items as determined by the Contractor

2.1.C. Baseline Schedule Construction% Work Complete Table

1. The Contractor shall prepare a table showing the total scheduled percentages of work complete over the construction period of performance based on the baseline progress schedule. The values shall be provided in an Excel table showing project scheduled percentage per month.
   a. Identify the required completion date for the construction period of performance in the table.
   b. Construction% complete shall equal 100% by the required construction completion date.
2. The table shall be submitted with the baseline progress schedule prepared by the Contractor.
3. The percentages in this table shall be used to fill out the baseline values in IBWC Form 149 Schedule Analysis that is required with each pay estimate.
4. If the baseline progress schedule is revised during construction period of performance, a new table shall be provided with revised schedule% of work complete over the remaining period of performance.

2.2. RECOVERY SCHEDULE

2.2.A. When periodic schedule update indicates the work is 21 days or more calendar days behind the current accepted schedule, a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule must also be submitted.

1. Contractor shall indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

2.2.B. The CO may determine that a recovery schedule is required when the Contractor falls behind the baseline schedule for any period of time.

2.3. LOOK AHEAD SCHEDULES

2.3.A. The Contractor shall provide weekly, biweekly, or three weeks look ahead work schedules at every weekly progress meeting.

2.3.B. Look ahead schedules are not required to be CPM schedules. They are meant to show short-term, real-time actions in the field. They also provide a record for the Contractor to aid in the updating of the Construction Schedule for each pay estimate.

1. Look ahead schedules may be created with a spreadsheet, a word processor, project management software, etc.
2. It is not required that the qualified scheduler create the look ahead schedules. Often the project manager or site superintendent is a better source for these schedules.
3. Look ahead schedules shall not be cost loaded.

2.3.C. The look ahead schedule shall be used to facilitate and take notes on discussions held during the progress meeting.

2.3.D. Hardcopy printouts of these look ahead schedules shall be provided to all attendees of the meeting.

2.3.E. A pdf copy (color, if appropriate) shall be provided to the Government Inspector and COR within 3 days of the meeting.

2.4. PAY ESTIMATE SCHEDULE UPDATES

2.4.A. Updated Progress Schedule

1. The Contractor shall submit, as part of their pay estimate, a report of the actual construction progress by updating the schedule.
   a. The Contractor shall, indicate on the schedule those activities that were added, updated, or revised. For items taking place prior to the last work day of the pay estimate period, actual dates shall be entered.
   b. Updates causing changes in the detailed schedule diagram shall be noted on the summary schedule diagram and a revised issue of the affected portions of the detailed schedule diagram shall be furnished along with the schedule.
   c. The date to be used for calculating progress shall be the last work day of the pay estimate period.
   d. The progress report shall show the activities or portion of activities completed during the reporting period and their total value as basis for the Contractor's periodic request for payment.
      (1) Indicate actual completion percentage for each activity.
   e. The progress report shall state the percentage of the work actually completed and scheduled as of the report date and the progress along the critical path in terms of days ahead or behind the Contract completion dates.
   f. If the project is behind schedule, progress along other paths with total float equal to or less than the number of days that the project is behind schedule shall also be reported.
2. Narrative
   a. The Contractor shall also submit a narrative report with the updated schedule which shall include, but not be limited to, a description of the current and anticipated problem areas; delaying factors and their impact; a list of those activity numbers that were added, updated, or revised; and an explanation of the corrective actions taken or proposed.

b. If the schedule update shows a late finish date after the Contract completion date, at a minimum, include the following in the narrative with your submission:
   (1) Any known delays.
   (2) Actions that will be taken to get back on schedule.
   (3) Pending modifications.
   (4) Impediments or constraints affecting progress.

3. If the Contractor fails to provide schedule updates or revisions, then a portion of the pay estimate may be retained until such corrections have been made.

2.4.B. Schedule Revisions

1. Required Revisions
   If, as a result of the monthly schedule update, it appears the currently accepted baseline schedule no longer represents the actual prosecution and progress of the work, the CO will request, and the Contractor shall submit, a revision to the baseline schedule. The Contractor may also request reasonable revisions to the currently accepted baseline schedule in the event the Contractor's planning for the work is revised. Accepted revisions will be incorporated into the currently accepted baseline schedule for the next monthly schedule update.

2. Procedure
   If revision to the current compliance confirmed baseline schedule is contemplated, the Contractor or CO shall so advise the other in writing at least 7 calendar days prior to the next pay estimate, describing the revision and reasons for the revision. Government-requested revisions will be presented in writing to the Contractor, who shall respond in writing within 7 calendar days.

PART 3 - EXECUTION

3.1. CONTRACTOR REQUESTED BASELINE SCHEDULE REVISION

3.1.A. If after compliance confirmation of the construction baseline schedule, the Contractor desires to make changes in the method of operating and scheduling, the Contractor shall notify the Government in writing stating the reasons for the change. If the Government considers these changes to be major, the Government shall require the Contractor to revise and submit for compliance confirmation, without additional cost to the Government, the entire affected portion of the Schedule, to show the effect on the entire project.

1. A change shall be considered major if the time estimated to be required or actually used for an activity or the logic of sequence of activities is varied from the original plan to a degree that there is a reasonable doubt, in the opinion of the Government, as to the effect upon the Contract completion date or dates.

2. Changes which affect activities with adequate float time shall be considered minor changes, except that an accumulation of minor changes shall be considered a major change when their cumulative effect, affects the Contract completion date.

3. The effect of minor changes on the logic shall be shown on the monthly update and described fully in the narrative progress report.

3.1.B. Reports
Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.

6. Changes in total float or slack time.

3.2. TIME IMPACT ANALYSIS FOR CONTRACT MODIFICATIONS, CHANGES, DELAYS, AND CONTRACTOR REQUESTS

3.2.A. When submitting a proposal in response to a letter request for proposal (RFP) for accomplishing revised work, the Contractor shall include in that proposal a Schedule for determining the effect of the proposed change on the Contract time or schedule. When changes in the work are found to necessitate issuance of a Notice to Proceed (issued under a unilateral modification) prior to cost proposal submission and/or settlement to avoid delay and additional expense, the Contractor shall furnish the Government suggested changes to the schedule logic and/or duration time estimates of all activities affected by the modification within 10 calendar days from the Notice to Proceed. These revisions will be submitted for concurrence of the Government prior to inclusion in the schedule. In the event the Contractor does not furnish the suggested schedule logic changes or an agreement cannot be reached, the Government will direct the Contractor as to the specific schedule logic changes and/or duration time estimate changes to be entered into the schedule logic and used in all subsequent progress reports until such time that the time has been settled or until actual dates supersede the estimated dates. Inclusion in the network and use of revised logic and/or duration time estimates for updating, whether furnished by the Contractor or the Government, will not be construed as extensions of time to the dates required in the Contract.

3.2.B. The above-mentioned changes are for the purpose of keeping the Schedule up to date to reflect the work to be accomplished and to include the best time estimates for work yet to be done. If it becomes necessary for the Government to furnish the suggested logic and/or duration time revisions because of the Contractor's failure to furnish acceptable data on time and if the Contractor has any objections to the data furnished by the Government, the Contractor shall advise the Government promptly, in writing, of such objections fully supported by the Contractor's own counterplan. However, the Contractor will continue to use the revisions suggested by the Government for progress reports until such time as the Government may approve alternate data. If the Contractor fails to submit, in writing, the objections to the revisions along with supporting data and counterplan within 14 calendar days after the date such suggested revisions were furnished by the Government, the Contractor will be deemed to have concurred with the Government's suggested logic/duration time changes. The changes then will be the basis for equitable adjustment of the time for performance of the work.

3.2.C. Requirements
When Contract modifications or changes are initiated, delays are experienced, or the Contractor desires to revise the currently accepted Construction Schedule, the Contractor shall submit to the CO a written time impact analysis illustrating the influence of each modification, change, delay, or Contractor request on the Contract time.

3.2.D. Time Extensions

1. Activity delays, which result in projecting a late completion date, shall not automatically mean that an extension of the Contract time is warranted or due the Contractor. It is possible that a modification, change, or delay will not affect existing critical path activities or cause non-critical activities to become critical. A modification, change, or delay may result in only absorbing a part of the available total float that may exist within an activity chain of the Schedule, thereby not causing any effect on the Contract time. Time extensions will be granted in accordance with the terms of the Contract.
2. Extension of the Contract time will be granted only to the extent the equitable time adjustments to the activity or activities affected by the modification, change, or delay exceeds the total (positive or zero) float available on a particular activity.

3.2.E. Procedure
Time impact analysis shall be submitted within the time period stated in Section 01.20.00 1.11., or the time period designated under the clauses entitled Changes or Default. In cases where the Contractor does not submit a written request for extension of time and a time impact analysis within the designated time, it

is mutually agreed that the particular modification, change, delay, or Contractor request does not require an extension of the Contract time. Upon acceptance, the time impact analysis shall be incorporated into the currently accepted baseline schedule at the next monthly schedule update.

3.2.F. Contract Modifications
For each proposed Contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall baseline schedule.

--End of Section--

SECTION 01.32.33
PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 1
1.5. Record Documents 1
1.6. Measurement and Payment 2
1.7. General 2
Part 2 - Products 2
2.1. Video Recordings 2
2.2. Photos 2
Part 3 - Execution 3
3.1. Preconstruction Video and Photographs 3
3.2. Construction Photographs 3
3.3. Completion of Construction Images 4
3.4. Additional Images 4
--End of Section-- 4

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.29.00-Payment Procedures

1.2.B. Section 01.33.00-Submittal Procedures

1.3. REFERENCE STANDARDS

1.3.A. United States Code (USC)

1. United States Copyright Act, 17 USC 101

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Preconstruction photos with IBWC Form 148
2. Completion of construction photos with IBWC Form 148

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. Construction photos as provided with pay estimates with IBWC Form 148

1.6. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.7. GENERAL

1.7.A. This Section includes administrative and procedural requirements for the following:

1. Existing condition images and video recording.
2. Periodic construction images.
3. Completion of construction images.

1.7.B. All photographs, aerials, slides, prints, negatives, video recordings, reports, documents, data, or other materials produced pursuant to this Contract shall be considered "work-made-for-hire" within the meaning and purview of Section 101 of the United States Copyright Act, 17 USC 101 and the Government shall be the copyright owner thereof and of all aspects, elements, and components thereof in which copyright protection might subsist.

PART 2 - PRODUCTS

2.1. VIDEO RECORDINGS

2.1.A. Video recordings shall be MPEG-4/MP4 (H.264) or AVI (uncompressed 4:2:2) encoding using high definition (minimum 1080p) video cameras. QuickTime mov files are not acceptable.

2.1.B. Recordings shall have clear and succinct narrative or captioning.

2.1.C. All video recordings must include metadata (catalogue information) to include the date and time of recording, the name of the area being documented, the project name, direction of travel, the viewing side, project number, project name, Contract number and description, and name or company of photographer.

2.1.D. The date and time shall appear in the upper or lower left-hand corner of the picture, for example:

1. Time: 08:35:15 (using 24-hour clock time)
2. Date: 09/18/2026. (date format MM/DD/YYYY)

2.1.E. Each video file shall have a unique name.

1. Filenames shall start with the date of the video in the format of YYYYMMDD.
2. Use underscores "_" instead of blanks in the filename.
3. Include basic description of project feature recorded after date in filename.
4. The entire filename shall not exceed 30 characters, excluding .mp4.

2.1.F. Each video shall be identified with name of photographer, date, time, and length of video, location of video, orientation, direction of travel, and description of video.

2.2. PHOTOS

2.2.A. Photographs shall be in color and provided as tiff or jpg files.

2.2.B. All photographs shall be taken with digital cameras. The digital camera files must be captured as 8-megapixel files or greater with a minimum pixel array of approximately 3,266 pixels by 2,450 pixels.

2.2.C. Any dates or other information overlayed by the digital camera shall not encroach on the subject of the photo. Ensure that the photo can be used with that information cropped out.

2.2.D. Except for adding tags, submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

2.2.E. Each photograph file shall have a unique name.

1. Filenames shall start with the date of the photo in the format of YYYYMMDD.
2. Use underscores "_" instead of blanks in the filename.
3. Include basic description of project after date in filename.
4. The entire filename shall not exceed 30 characters, excluding .jpg/tiff.

2.2.F. Each photograph shall be identified by a photo number, name of photographer, project name, date and time of photograph, location of photographer, orientation, and description of photograph.

1. The above captioned information shall be detailed on IBWC Form 148.

2.2.G. Include tags (metadata) in the image file. Tags shall include, but not be limited to:

1. Contract Number
2. Project Name
3. Contractor's Name
4. Amistad Reservoir and Dam Project

PART 3 - EXECUTION

3.1. PRECONSTRUCTION VIDEO AND PHOTOGRAPHS

3.1.A. Preconstruction photos shall thoroughly document the structures within the worksite, as well as any adjacent areas which could possibly be disturbed during construction.

3.1.B. The Contractor shall document preconstruction conditions of any existing structures, located within the construction limits and/or in immediate vicinity of the construction limits but outside of the construction limits, which belong to either USIBWC or neighboring property owners.

3.1.C. The Contractor shall obtain as many digital photos as necessary of existing structures prior to project construction to assess extent of damage if need for repair or replacement of the existing structures arises during or after the project construction. If damages or alternation to these structures are found to be caused by any construction activity of the Contractor, the Contractor shall repair or replace the structures to the original conditions at no cost to USIBWC.

1. Before commencement of any work take color digital images of project site and surrounding properties, including existing items to remain during construction, from different vantage points.
2. Flag excavation areas and/or construction limits before recording construction images.
3. Take images to show existing conditions adjacent to construction site before starting the work.
4. Take images of existing buildings and other structures either on or adjoining property to accurately record physical conditions at start of construction.
5. If any area/structure is covered with weeds or debris, additional photos and video shall be taken once the site has been cleaned up.

3.1.D. The Contractor shall submit an electronic copy of all photographs along with IBWC Form 148 to identify each photograph as described above. Provide IBWC Form 148 in both Excel and pdf formats.

3.1.E. The Contractor shall submit an electronic copy of all videos.

3.2. CONSTRUCTION PHOTOGRAPHS

3.2.A. Take digital images using the maximum range of depth of field, and that are in focus, to clearly show the work. Images with blurry or out-of-focus areas will not be accepted.

1. Maintain index with each set of construction images that identifies the number, date, time, and description for each.

3.2.B. The Contractor shall submit a set of at least 20 color photographs for each month of construction to the Government indicating the relative progress of the work.

1. Photos shall be submitted in color in electronic (jpg or tiff) format.
2. Taking of photographs shall proceed at issuance of Notice to Proceed, before the commencement of construction operations and shall be submitted to the Government with each monthly pay estimate.
3. If more than 20 photographs are submitted with the monthly pay estimate, the Contractor will not be paid any additional costs. The COR reserves the right to reject any photograph that is not clear or definitive. If rejection of a photograph causes the Contractor's submitted number of photos to fall below ten, the pay estimate may be rejected.

3.2.C. Select vantage points to show status of construction and progress since last images were taken.

3.2.D. The Contractor shall submit IBWC Form 148 to identify each photograph as described above. Provide IBWC Form 148 in both Excel and pdf formats.

3.2.E. See Section 01.29.00 for additional information about photos submitted with pay estimates.

3.3. COMPLETION OF CONSTRUCTION IMAGES

3.3.A. After completion of construction, retake photos of existing buildings and other structures either on or adjoining property to accurately record physical conditions at end of construction. Ensure that all structures photographed prior to construction are re-photographed at the end of construction.

3.3.B. Ensure that all structures photographed prior to construction are re-photographed at the end of construction.

3.3.C. Take a complete set of photos showing the completed project.

3.4. ADDITIONAL IMAGES

3.4.A. COR may issue requests for additional images, in addition to periodic construction images specified. Additional images shall be provided at no additional cost to the Government.

1. Where feasible, 3 days' notice will be given.
2. In emergency situations, take additional images within 24 hours of request.
3. Circumstances that could require additional images include, but are not limited to, the following:
   a. Immediate follow-up when onsite events result in construction damage or losses.
   b. Images to be taken at fabrication locations away from project site.
   c. Substantial Completion of a major phase or component of the work.
   d. Extra record images at time of final acceptance.

--End of Section--

SECTION 01.33.00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 1
1.5. Measurement and Payment 1
1.6. General 1
1.7. Definitions 2
1.8. Submittal Package Requirements 3
1.9. Submittal Review and Procedures 5
1.10. Submittal Register 7
1.11. Submittal Address 8
1.12. Scheduling 8
1.13. Additional Submittal Processing Costs 8
--End of Section-- 8

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.70.00-Delivery of Data to USIBWC

1.2.B. Section 00.73.73-Requirements for Sensitive But Unclassified

1.2.C. Section 01.11.00-Summary of Work

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR 52.236-21, Specifications and Drawings for Construction

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Submittal Register

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL

1.6.A. The Contractor shall provide all materials and perform all work required for furnishing submittals to the Government, in accordance with the FAR clause 52.236-21 entitled "Specifications and Drawings for Construction" and the requirements in this Contract.

1.6.B. All submittals shall be submitted electronically to the COR for review. The submittal shall include the Transmittal Form (IBWC Form 146) along with the submittal data.

1. All submittals, except for photos and videos, shall be provided as pdf documents.
2. See Section 00.70.00 for requirements of pdf documents submitted to USIBWC.

1.6.C. The CO or COR may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective Sections.

1.6.D. Units of weights and measures used on all submittals are to be the same as those used in the Contract Drawings and these Technical Specifications.

1.6.E. Each submittal is to be complete in sufficient detail to allow ready determination of compliance with Contract requirements.

1.6.F. Contractor's Quality Control (CQC) System Manager is to check and approve all items prior to submittal and then sign and date IBWC Form 146 indicating Contractor approval.

1.6.G. Unless otherwise noted in the specific sections, all submittals require Government compliance confirmation.

1.6.H. Submittals requiring Government compliance confirmation are to be scheduled and compliance confirmation received prior to the acquisition of the material or equipment covered thereby.

1.7. DEFINITIONS

1.7.A. Submittals

1. The word "submittals" shall be interpreted to include shop drawings, data, manuals, certifications, samples, color chips or charts, brochures, schedules, photographs, and other items furnished by the Contractor for review, information, and other purposes. Specific submittal requirements are identified in each Technical Specification Section, if required for that Section.
2. Submittal also means an initial submittal, a resubmittal, or an addendum/change to a compliance confirmed submittal.

1.7.B. Shop Drawings

1. The term "shop drawings" as used herein shall include detailed design calculations signed and stamped with the seal of a professional engineer as specified in the Technical Specifications or as noted on the Contract drawings, at the Contractor’s expense.
2. Shop drawings include fabrication and installation drawings, material and parts lists, graphs, test data, operating instructions, and other items as specified or shown which shall include but not necessarily be limited to:
   a. Drawings and/or catalog information and cuts.
   b. Anchor bolt templates, mounting instructions and mounting design calculations as required per the Contract.
   c. Other technical, installation and maintenance data as applicable.
   d. Unloading and handling methods and storage requirements.
   e. Paint or coating submittal showing type of paint or coating, and the mils thickness of coating system used.
   f. Drawings showing Contractor field verifications illustrating all field dimensions.
3. Shop drawings shall be provided at full scale, i.e. their original drawing size. Do not shrink the paper/page size. Rebar shop drawings shall not be provided at smaller than 11"x17".

1.7.C. Variation

1. Variation, deviation, or change are used interchangeably with submittals. They reference an item not meeting a Contract requirement as written.

2. Variations include, but are not limited to, type of material, size of material, engineering property of a material, manufacturer, installation method, etc.

1.7.D. Record Documents

1. Record documents are items furnished by the Contractor for project records. These are not submittals and do not require a Form 146. The Contractor may use or the COR may require the use of Form 146, but the submittal number shall be left blank.
2. The COR will return any record documents to the Contractor if they are incomplete or fail to meet the Contract requirements.

1.8. SUBMITTAL PACKAGE REQUIREMENTS

1.8.A. Separate Submittals

1. A separate Transmittal Form (IBWC Form 146) shall be used for each specific item, class of material, work plan (e.g. safety plan, QC plan, seeding plan), or equipment for which a submittal is required.
2. Submittals on various items or multiple shop drawings using a single submittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. Just because products are used on the same item, does not automatically make them functionally related.
   a. Examples of allowable items within a single submittal include concrete mix information, cement product data, and admixture product data or vehicular guardrail W-rail product data, metal post product data, and offset block product data.
3. Items sharing common features may share the same base submittal number. For example, roadway aggregate could be submittal 044-A while crushed aggregate base is submittal 044-B even though these items are covered under different specification sections. Likewise combining concrete joint materials, waterstops, etc. together in a single submittal is not appropriate, but including them under the same submittal number is.

1.8.B. The Transmittal Form (IBWC Form 146) shall contain the following:

1. The date the submittal was provided to the Government.
2. The name of the project.
3. The Contract number.
4. The submittal number.
5. The section number and paragraph number.
6. The name of the Contractor.
7. A description of items submitted including numbers and titles.
8. Identification as either a new submittal, a resubmittal, or an addendum/change to a prior submittal.
9. A mark noting if the submittal contains a variation from the Contract requirements.
10. The CQCSM's name and signature certifying that the CQCSM has reviewed the submittal and coordinated the work of all trades involved and that the item of work is in strict conformance with the Contract.
    a. The Contractor's signature of certification shall constitute a representation that all quantities, dimensions, construction criteria, materials, performance criteria, and similar data have been verified and that the submittal fully meets the requirements of the Contract.

1.8.C. Each submittal shall be numbered consecutively with a unique number.

1. Submittals shall be numbered with next available (whole) number.
   a. The submittal number shall be a three-digit number. It shall not include any project numbers, section numbers, or anything other than the three digit number.

2. When submittal is resubmitted, has an addendum submitted, or has a change submitted, the original number shall have a letter added. For example, if the original submittal was number 012; a resubmittal would be 012-A. Any other resubmittals, addendums, or changes would then be 012-B, 012-C, etc.
3. No two submittals shall have the same submittal number.

1.8.D. Each submittal shall accurately and distinctly present the following:

1. All working and erection dimensions.
2. Arrangements and sectional views.
3. Necessary details, including complete information for making connections between work outside the project or to be performed by others and work under this Contract.
4. Kinds of materials and finishes.
5. Parts lists and description thereof.

1.8.E. Each report, drawing, or submittal item shall include:

1. Document date and submittal number.
2. Project name, USIBWC Contract number, and Project title.
3. Detailed Contract Section number and paragraph number.
4. Name of Contractor and Subcontractor, if applicable.
5. Name of supplier and manufacturer.
6. Relation to adjacent structure or material.
7. Field dimensions, clearly identified.
8. Standard, code, test, or Contract references.
9. Identification of deviations from the Contract.
10. Contractor’s stamp, initialed or signed, dated, and certification of review of submittal, certification of field measurements, and compliance with Contract.
11. Location at which the equipment or material is to be installed; location shall mean both physical location and location relative to other connected or attached material.
12. Contractor’s or Supplier's title.
13. Drawing Number.

1.8.F. If the Contractor is requesting a variation, provide a separate sheet clearly identifying the variation(s) proposed, the applicable Contract Drawing or Specification Section number, and an explanation of why the variation is being requested.

1.8.G. The Contractor shall submit only complete sets of material/information for review. The Contractor shall check and approve all submittals prior to transmitting them to the COR to determine if they comply with requirements of the Contract.

1.8.H. If submittal information contains SBU data as noted in Section 00.73.73, the pages containing the data shall be marked per Section 00.73.73 2.1.

1. Manufacturer's data, catalog sheets, and other general information shall not be marked SBU. Only items specific to this project such as drawings, wiring diagrams, or system set up data shall be marked. For example, if a generator submittal contains IBWC Form 146, the manufacturer's product data sheet, and a line drawing indicating how the generator will be connected to the facility for emergency power. Only the drawing is required to be stamped SBU.

1.8.I. All items submitted shall be the most recent versions. Do not submit old data.

1.8.J. Manufacturer's data for commercial products or equipment, such as catalog cut sheets, shall be clearly marked to indicate the item(s) to be furnished. The data shall be sufficiently comprehensive to identify the manufacturer's name, type, model, size, and characteristics of the product or equipment and fully demonstrate that the product or equipment meets the requirements of the Contract.

1.8.K. Material Certifications
Submittals for each type of material mentioned for each section shall include test results performed on that material for this Contract, along with published data or a letter certifying compliance with the Contract.

1.8.L. Redundant or duplicative data shall not be submitted within a submittal or across multiple submittals.

1.8.M. Items already submitted for compliance confirmation under one submittal number shall not be submitted under another submittal number. Items addressed more than once within these Technical Specifications shall only be submitted once.

1.8.N. Only information relevant to the submittal shall be provided.

1.9. SUBMITTAL REVIEW AND PROCEDURES

1.9.A. The Contractor shall submit a submittal in accordance with requirements herein.

1. The COR will review and stamp IBWC Form 146 with "A-Compliance Confirmed," "B-Compliance Confirmed as Noted," "C-Examined and Returned for Correction," "D-Incomplete submittal," or "E-Unacceptable." The Transmittal Form with a USIBWC response letter will be emailed to the Contractor by the COR at an address designated by the Contractor.
2. If a drawing or data is stamped "C-Examined and Returned for Correction," "D-Incomplete submittal," or "E-Unacceptable," the Contractor shall make the necessary corrections and resubmit as required above. The IBWC Form 146 transmitting the corrected documents shall indicate that the documents comprise a resubmittal.
3. The COR will return unchecked any submittal which does not contain complete data on the work and full information on related matters. The time required for review of submittals furnished as specified herein will begin after the COR receives complete sets of the submittal.

1.9.B. If the submittal shows departure from the requirements of the Contract, the Contractor shall make specific mention on the Transmittal Form (IBWC Form 146) and provide details on a separate sheet as noted in Paragraph 1.8.F., otherwise confirmation of compliance of such submittals by the COR shall not constitute compliance confirmation of the variation. Any variation not noted by the Contractor on IBWC Form 146 may cause rejection of the work. Compliance confirmation of the submittal shall refer to the subject matter thereof only and not to any structure, material, equipment or apparatus shown or indicated.

1.9.C. Government Review Time

1. Except as otherwise provided in this Contract, the Government will require 14 calendar days for review of each submittal or resubmittals. This review period will begin the date of the next business day after the submittal(s) are received by the COR and will extend through the date of return mailing to the Contractor. This review period will apply to each separate submittal or resubmittal whether compliance is confirmed or returned for revision.
   a. Submittals shall be noted as received per Section 00.70.00 Paragraph 1.5.F.
2. During the period of December 14 through December 28, Contractor should expect longer than usual review times. The Government will require up to 21 calendar days for review of submittals provided during this time period. Contractor shall properly plan submission of submittals in advance of this time period. If the Contractor submits more than 2 submittals during the period of December 12 and December 13, the Government will consider the third and each additional submittal thereafter as being received on December 14.

3. If the COR uses time in excess of the above stated number of calendar days for review of any submittal or resubmittal, additional time, not to exceed the excess time, will be added to the time allowed the Contractor for completion of the work affected by such excess time, to the extent it is demonstrated that the excess time caused a delay. If the COR's review of two or more separate submittals or resubmittals is late and results in concurrent calendar days of excess time, such days will be counted only once in computing an extension of the completion date. Further, if the Contractor fails to make submittals within the time period specified in this Contract and thus precludes the COR from reviewing such submittals within the foregoing 14 calendar day period, then the Contractor shall not be entitled to an extension of time allowed for completion of the work.

1.9.D. The review of submittals will only be for compliance with the information given in the Contract and shall not extend to means, methods, sequences, techniques, or procedures of construction or to safety precautions or programs incidental thereto unless also covered in the Contract. The review shall in no way relieve the Contractor of responsibility for errors or omissions contained therein, nor shall such review operate to waive or modify any provision contained in the Contract.

1.9.E. Submittals are not reviewed for final construction dimensions. Fabricating dimensions, quantities of material, applicable code requirements, and other requirements shall be the Contractor's responsibility.

1.9.F. Resubmittals

1. Submittals that require changes or revisions shall be revised and resubmitted for review and shall indicate changes and revisions made.
2. Revised documents shall have an updated document date.
3. All requirements specified for the initial submittal shall apply to any resubmittals required.
4. Unless otherwise specified, the Contractor shall submit all resubmittals within 14 calendar days after the Contractor has received the COR's comments.

1.9.G. After a submittal has been reviewed, no change in brand or manufacture will be permitted by the COR unless satisfactory written evidence is presented that manufacturer cannot make scheduled delivery of material, or that the material delivered has been rejected and substitution of suitable material is an urgent necessity.

1.9.H. Fabrication or delivery of any items shall not commence before the COR has reviewed the pertinent submittals and returned copies to the Contractor marked to indicate "A-Compliance Confirmed" or "B-Compliance Confirmed as Noted." It shall be the responsibility of the Contractor to coordinate the timing of the submittals with the necessary lead time for equipment deliveries and the construction schedule.

1.9.I. The term "or equal" shall be understood to indicate that the "equal" product is the same or better than the product(s) named and/or specified in the detailed section in function, performance, integrity, reliability, quality, and general configuration. Where the Contractor proposes to submit an "equal" item, the installation of which will require any redesign of the structure, partitions, foundations, piping, ductwork, wiring, or of any other part of the project, all such redesign and all new design drawings and detailing required shall be prepared by and stamped with the seal of a Registered Professional Engineer licensed in the State of Texas at the Contractor's expense and shall be submitted to the COR for review in accordance with the Contract. Where the use of an "or equal" item(s) require modifications, involving a change in quantity of material and equipment from that specified or indicated in the Contract, the Contractor shall bear the total expense of such changes.

1.9.J. All submittals, shop drawings, and data, after review and processing by the COR, shall become a part of the Contract and the work shown or described shall be performed in conformity with these documents.

1.10. SUBMITTAL REGISTER

1.10.A. The Contractor shall provide a proposed submittal register (IBWC Form 147) to the COR. Additionally, the submittal register shall reflect the following information, as available, for each submittal:

1. Submittal numbers
2. Reference to the applicable section in the Technical Specifications that requires the submittal
3. Description of items submitted
4. Type of submittal
5. If submittal is for Government review or information only
6. The dates the Contractor proposes to furnish the submittals
7. The dates the materials, equipment, etc., are needed at the worksite
8. The date submittals are prepared by the Contractor
9. The date the submittal is provided to the COR
10. The code (A, B, C, D, or E) given to the submittal by the Government
11. The date that the submittal is returned to the Contractor

1.10.B. The Contractor shall coordinate the preparation of the submittal register with the compliance confirmed baseline schedule and shall allow 14 calendar days for Government review.

1. The Contractor shall keep the submittal Register up to date. A correct, updated submittal Register shall be maintained at the worksite.
2. The submittal register shall not be interpreted as relieving the Contractor of its obligation to comply with the Contract for the items listed on the submittal register.

1.10.C. The initial submittal register shall include a complete list of expected submittals, but only those submittals identified in Section 01.11.00 3.1. shall have numbers applied. All other submittals shall simply be shown in a list without numbers.

1. Submittals shall be assigned the next free, one-up number available when they are submitted. If done properly, no gaps in numbering shall occur.
2. Submittals identified in Section 01.11.00 3.1. shall use the following submittal numbers:
   a. 001-Schedule
   b. 002-Photographs of Existing Conditions
   c. 003-Submittal Register
   d. 004-Accident Prevention Plan
   e. 005-AHAs
   f. 006-Site Safety and Health Officer Qualifications
   g. 007-Employee First-Aid and CPR Training Records
   h. 008-Contingency Evacuation Plan
   i. 009-Quality Control Plan
   j. 010-Contractor Quality Control System Manager Qualifications
   k. 011-Staging Area/Haul Routes/Trailer Location/Storage
   l. 012-SWPPP, NOI, NOT, etc.
   m. 013-Resource Conservation Construction Plan
   n. 014-Work Process Procedure

1.10.D. If the Contractor finds that items originally placed on the submittal register are no longer required, these items shall be deleted from the submittal register.

1. The submittal number corresponding to any deleted item is then available for use at a later date.

2. No submittal number that has already been used may be deleted from the submittal register.

1.10.E. The Contractor shall, every 30 calendar days, update the submittal register and shall submit a copy of the revised and/or updated submittal register to the COR. This date shall coincide with the monthly pay estimate date. The Contractor shall indicate on the submittal register those submittals/resubmittals that were added, updated, or deleted.

1. The submittal register shall list items by their submittal number.

1.11. SUBMITTAL ADDRESS

1.11.A. The Contractor shall transmit all submittals to the COR electronically whenever possible. If items must be delivered, they shall be sent to the following address:

International Boundary and Water Commission-US Section
USIBWC Amistad Dam Field Office
670 Texas Spur 349
Del Rio, Texas

1.11.B. This address may be changed based upon the field office location of the local COR.

1.12. SCHEDULING

Coordinate scheduling, sequencing, preparing, processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.

1.13. ADDITIONAL SUBMITTAL PROCESSING COSTS

1.13.A. It is expected that the information required for each item shall be complete on the first submittal. In the event that a second submittal is required, the Contractor's submittal shall be complete and shall have addressed all requirements for acceptability.

1.13.B. Costs associated with the review of submittals where review is performed on any third and subsequent submittals shall be borne by the Contractor. The Contractor will be billed for these costs by the Government. Costs due may be deducted from any progress payments due the Contractor by the Government.

1.13.C. Costs shall be determined as follows:

C = (DLC) + (ODC)

Where:
C = Cost for additional reviews.
DLC =Loaded Direct Labor Cost (hours spent on review x hourly rate of reviewer)
ODC =Other Direct Costs (Travel, subsistence, etc.)

1.13.D. The additional submittal processing costs shall apply and will be assessed against the Contractor for Contractor submittals made to replace and/or substitute products, materials and/or equipment previously submitted by the Contractor and compliance confirmed by the Government.

--End of Section--

SECTION 01.35.23
SAFETY

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Safety References 2
1.5. Submittals 2
1.6. Record Documents 3
1.7. Measurement and Payment 3
1.8. General 3
1.9. Noncompliance 4
1.10. Accident Prevention Plan (APP) 5
1.11. Activity Hazard Analysis (AHA) 6
1.12. Reporting Requirements 7
1.13. Site Safety and Health Officer Qualifications and Duties 9
1.14. Language 10
1.15. Bulletin Board 10
1.16. Hazardous or Toxic Agents 11
1.17. Project Specific Safety Concerns 11
1.18. Cranes 13
1.19. CPR and First Aid Training 16
1.20. Contingency Evacuation Plan 17
Part 2 - Products 17
2.1. Fire Extinguishers 17
2.2. Personnel Protective Equipment (PPE) 18
Part 3 - Execution 18
3.1. General 18
3.2. Bulletin Board 18
3.3. Unforeseen Hazardous Material 18
3.4. Safety Meetings 18
3.5. Safety Training for Site Specific Hazards 19
--End of Section-- 19

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.60.00-USIBWC Forms and Standard Documents

1.2.B. Section 01.33.00-Submittal Procedures

1.2.C. Section 01.43.26-Testing and Inspection Agencies

1.2.D. Section 01.45.00-Quality Control

1.3. REFERENCE STANDARDS

1.3.A. American National Standards Institute (ANSI)

1. ANSI Z358.1-2014, Emergency Eyewash & Shower Standard

1.3.B. Code of Federal Regulations (CFR) / Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1904, Recording and Reporting Occupational Injuries and Illnesses
2. 29 CFR 1910, Occupational Safety and Health Standards
3. 29 CFR 1926, Construction Standards

1.3.C. Federal Acquisition Regulation (FAR)

1. FAR 52.236-2, Differing Site Conditions
2. FAR 52.243-4, Changes

1.3.D. National Fire Protection Association (NFPA)

1. NFPA 70-2023 Standard for Electrical Safety in the Workplace (also known as the National Electrical Code [NEC]), including Errata through 70-23-8 and TIA through 23-16

1.3.E. National Institute for Occupational Safety and Health (NIOSH)

1. NIOSH Manual of Analytical Methods 5th Edition

1.3.F. Occupational Safety and Health Administration (OSHA)

1. OSHA Instruction TED 01-00-015 [TED 1-0.15A], Section V

1.3.G. United States Army Corps of Engineers (USACE)

1. USACE Safety and Health Requirements Manual, EM 385-1-1, March 15, 2024

1.3.H. United States Code (USC)

1. Consumer Product Safety Act, 15 USC 2051-2089
2. Federal Hazardous Substances Act, 15 USC 1261-1278

1.4. SAFETY REFERENCES

1.4.A. The Contractor shall comply with all provisions of the "*US Army Corps of Engineers Safety and Health Requirements Manual*," EM 385-1-1 and with all applicable regulations of the Occupational Safety and Health Administration (OSHA), 29 CFR 1910, Occupational Safety and Health Standards and 29 CFR 1926, Construction Standards.

1. The USACE EM 385-1-1 can be obtained from www.publications.usace.army.mil/Portals/76/EM%20385-1-1%20_EFFECTIVE%2015March2024.pdf or procured by the Contractor from the US Government Printing Office, Superintendent of Documents, PO Box 371954, Pittsburgh, PA 15250 7954. Limited copies may be obtained from your local USACE office.
2. The OSHA 29 CFR 1910 and 29 CFR 1926 can be accessed at www.osha.gov or www.govinfo.gov/app/collection/CFR.

1.4.B. Toolbox safety meeting resources include, but are not limited to:

1. The Center for Construction Research and Training (CPWR) at www.elcosh.org.
2. OSHA Safety and Health Topics at www.osha.gov/SLTC.

1.5. SUBMITTALS

1.5.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.5.B. Required submittals in this Section include:

1. Accident Prevention Plan (APP)
2. Activity Hazard Analyses (AHA)

3. Site Safety and Health Officer (SSHO) Qualifications
4. Safety Data Sheets (SDS), if required
5. Hazardous or Toxic Agent Inventory, if required
6. Crane and/or Hoisting Equipment Operator Qualifications
7. Rigger Qualifications
8. Signal Person Qualifications
9. Crane and/or Hoisting Equipment Records
10. Crane and/or Hoisting Equipment Load Testing Records
11. Employee First-Aid and CPR Training Records
12. Contingency Evacuation Plan
13. Environmental Testing Laboratory(ies)
    Compliance confirmation of testing facilities shall be based on compliance with Section 01.43.26, and no work requiring testing will be permitted until the facilities have been compliance confirmed by the COR.

1.6. RECORD DOCUMENTS

1.6.A. Required documents to be provided to Government in this Section include:

1. Safety Inspections of Jobsite and Equipment
2. Weekly Toolbox Safety Meetings
3. Logs/Minutes of Other Safety Meetings
4. Safety Logs
5. Incident and Accident Reports
6. IBWC Form 153

1.7. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.8. GENERAL

1.8.A. The Contractor shall provide and maintain work environments and procedures which will safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities.

1.8.B. The Contractor shall keep the jobsite free from safety and health hazards and ensure that its employees, as well as those of its subcontractors, are competent and adequately trained in all safety and health aspects of the job.

1.8.C. Amistad Dam has 8 radial (tainter) gates on the United States' side of the dam. These gates sit on the ogee crest of the dam. The front cover of these Technical Specifications shows gate 1 from the upstream (reservoir) side of the dam. Figure 3 shows the downstream face of Amistad Dam. Additionally, the Contractor shall carefully review drawings 18061, 18062, and 18063 to determine how safety features can be created to protect workers. Contractors may use the tainter gate bulkhead slot shown on drawings 18062 and 18063 to install cross beams if needed.

Figure 3 - Downstream face of Amistad Dam

1.8.D. The Government considers the Contractor to be the "controlling authority" for all jobsite safety and health of the subcontractors. The Contractor is responsible for informing their subcontractors of the safety provisions under the terms of the Contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out.

1.9. NONCOMPLIANCE

1.9.A. The Contractor is responsible for being cognizant of and ensuring compliance with the requirements set forth in this Section. Such responsibility shall apply to both the Contractor's operations and those of the Contractor's subcontractors.

1.9.B. When violations of the safety and health requirements contained in these Contract documents or safety standards are called to the Contractor's attention by the Government, the Contractor shall immediately correct the condition to which attention has been directed. Such notice, either oral or written, when served on the Contractor or the Contractor's representative(s), shall be deemed sufficient.

1. In the event the Contractor fails or refuses to promptly comply with the compliance directive issued above, the Government may issue an order to stop all or any part of the work. When satisfactory corrective action is taken, an order to resume work will be issued.
2. The Contractor shall not be entitled to any extension of time nor to any claim for damage or to additional compensation by reason of either the directive or the stop order.
3. Failure of the Government to order discontinuance of any or all of the Contractor's operations shall not relieve the Contractor of the Contractor's responsibility for the safety of personnel and property.

1.10. ACCIDENT PREVENTION PLAN (APP)

1.10.A. Prior to the initiation of work at the jobsite, the Contractor shall submit a site specific safety plan, incorporated herein by reference as Accident Prevention Plan (APP), to the COR for review and compliance confirmation with the standards referenced above.

1. The APP shall follow 2014 EM 385-1-1 Appendix A, paragraph 3. APP Format. It shall include:
   a. Signature Sheet
      (1) The APP shall be signed by the person or firm (senior person) preparing the APP, the Contractor's project manager, the Contractor's onsite superintendent, and the designated Safety and Health Officer (SSHO).
   b. Background Information
   c. Statement of Safety and Health Policy
   d. Responsibilities and Lines of Authority
   e. Subcontractors and Suppliers
   f. Training
   g. Safety and Health Inspections
   h. Mishap Reporting and Investigation
   i. Plans, Programs, and Procedures
      (1) Include only site-specific plans, programs, and procedures (Item 3.i. on EM 385-1-1 page A-5).
      (2) Keep plans in the same order as shown in EM 385-1-1, page A-5 through A-8.
      (3) Do not include items that are prepared under separate submittals. A reference to those submittals may be made.
      (4) Do not include resumes or training certificates. Provide those under other appropriate submittals.
   j. At a minimum, the following Plans, Programs, and Procedures shall be provided:
      (1) Fatigue Management Plan (EM 385-1-1 01.A.20)
      (2) Emergency Plans (EM 385-1-1 01.E)
         (a) Procedures & Test (EM 385-1-1 01.E.01)
         (b) Spill Plans (EM 385-1-1 01.E.01, 06.A.02)
         (c) Fire Fighting Plan (EM 385-1-1 01.E.01; 19.A)
         (d) Posting of Emergency Telephone Numbers (EM 385-1-1 01.E.05)
         (e) Plan for Prevention of Alcohol and Drug Abuse (EM 385-1-1 01.C.02)
      (3) Site Sanitation/Housekeeping Plan (EM 385-1-1 02.B)
      (4) Medical Support Agreement (EM 385-1-1 03.A.01 03.A.03)
         (a) When an emergency happens is not the time to try and direct personnel to a remote location.
         (b) Provide documentation or statement that you have reached out to the closest or most likely medical and emergency response service(s) (often local fire departments) notifying them of the specific site of work and how to safely access the site.
         (c) Identify which medical and emergency services you contacted.
      (5) Blood-Borne Pathogen Program (EM 385-1-1 03.A.05)
      (6) Exposure Control Plan (EM 385-1-1 03.A.05.c.)
      (7) Automatic External Defibrillator (AED) Program (EM 385-1-1 03.B.04), if applicable
      (8) Site Layout Plan (EM 385-1-1 04.A), if applicable
      (9) Access/Haul Road Plan (EM 385-1-1 04.B), if applicable
      (10) Hearing Conservation Program (EM 385-1-1 05.C)
      (11) Respiratory Protection Plan (EM 385-1-1 05.G)
      (12) Health Hazard Control Program (EM 385-1-1 06.A)
      (13) Hazard Communication Program (EM 385-1-1 06.B.01)

(14) Process Safety Management Program (EM 385-1-1 06.B.04), if applicable
(15) Lead Compliance Plan (EM 385-1-1 06.C.02)
(16) Abrasive Blasting Procedures (EM 385-1-1 06.I.01)
(17) Heat Stress Monitoring Plan (EM 385-1-1 06.J.02)
(18) Cold Stress Monitoring Plan (EM 385-1-1 06.J.04)
(19) Standard Pre-Lift Plan-Load Handling Equipment (EM 385-1-1 16.A.03)
(20) Critical Lift Plan-Load Handling Equipment (EM 385-1-1 16.H)
(21) Man Overboard/Abandon Ship Procedures (EM 385-1-1 19.A.04)
(22) Float Plan for Launches Motorboats and Skiffs (EM 385-1-1 19.F.04)
(23) Fall Protection and Prevention Plan (EM 385-1-1 21.D)
(24) Demolition/Renovation Plan (EM 385-1-1 23.A)
(25) Rope Access Work Plan (EM 385-1-1 24.H), if applicable

k. Do not include Risk Management Process (AHAs) in your APP. AHAs shall be submitted separate from the APP.

2. Do not include your company's regular safety plan. Prepare a site-specific plan that addresses the issues in this Contract.

1.10.B. Jobsite mobilization will not be permitted until the APP has been compliance confirmed by the COR.

1. Understanding that the APP is submitted prior to work starting and that some project-specific information is not yet known (e.g., subcontractors to be used, type of fall protection to be used at a certain point in time, specific cranes or other load handling equipment (LHE) to be brought on site, etc.), the known information shall be provided in the initial APP.

2. Additional information shall be added to the APP and compliance confirmed prior to the corresponding preparatory phase meeting.

1.10.C. Once work begins, changes to the compliance confirmed APP shall be made with the knowledge and concurrence of the COR, project superintendent, SSHO, and quality control manager. Should any hazard become evident, stop work in the area, secure the area, and develop a plan to remove the hazard. Notify the COR within 24 hours of discovery. In the interim, take all necessary action to restore and maintain safe working conditions to safeguard onsite personnel, visitors, the public, and the environment.

1.10.D. After any accident or mishap:

1. Applicable APP Plans, Programs, and Procedures shall be reviewed and updated if appropriate.

a. The Contractor shall either resubmit revised APP Plans, Programs, and Procedures or submit statement that APP has been reviewed and that no changes are required.

2. Reviews and submittals shall be completed within 14 calendar days of the accident or mishap.

1.11. ACTIVITY HAZARD ANALYSIS (AHA)

1.11.A. Prior to the initiation of work at the jobsite, the Contractor shall submit site specific Activity Hazard Analysis (AHA), to the COR for review and compliance confirmation with OSHA standards and EM 385-1-1.

1.11.B. AHAs shall be developed for each Definable Feature of Work (DFOW, see Section 01.45.00 Paragraph 1.8.) and shall be specific to the work being performed on this project. Having the employees who perform the work aid in developing the AHAs is extremely advantageous.

1. IBWC Form 164A shall be used for all AHAs.

2. Only 1 AHA shall be provided for each DFOW. AHAs shall be updated whenever better working practices or additional hazards are identified.

3. At a minimum, AHAs shall include: DFOW, Contract number, date prepared, indication if AHA is new or updated/revised, location, name and title of person who prepared AHA, name and title of person who reviewed AHA, PPE required, job steps, hazards, controls, equipment to be used,

training requirements, competent/qualified personnel names, safety inspection requirements, and any applicable notes.

4. Competent and Qualified Personnel
   a. Personnel must have capability to identify hazards. Provide training certificates and/or resume to show person has met qualifications for competent or qualified person.
   b. Electrical, fall protection, confined spaces, powered industrial trucks (i.e. forklifts), and ATVs require training within the last 3 years.
   c. USIBWC will not accept any training certificates more than 10 years old.
   d. For competent persons, provide letter of authority signed by Contractor authorizing the competent person to take prompt corrective action to eliminate unsanitary, hazardous, or dangerous working conditions.
5. Subcontractors may create AHAs but all project AHAs shall be reviewed by Contractor's SSHO or Contractor's corporate safety officer.

1.11.C. For every job step in an AHA, list the specific hazards and related mitigation control measures. Do not lump all hazards and mitigation control measures together; they must be related to a specific job step.

1.11.D. Jobsite work will not be permitted until all the applicable AHAs have been compliance confirmed by the COR.

1. AHAs shall be submitted, and compliance confirmed before a preparatory phase meeting for work on the associated DFOW is held.

1.11.E. After any accident or mishap:

1. Applicable AHAs shall be reviewed and updated if appropriate.
   a. The Contractor shall either resubmit revised AHA or submit statement that AHA has been reviewed and that no changes are required.
2. Reviews and submittals shall be completed within 14 calendar days of the accident or mishap.

1.12. REPORTING REQUIREMENTS

1.12.A. For OSHA recordable accidents, the Contractor shall conduct a suitable investigation and complete the OSHA Form 300, latest edition.

1. A copy of OSHA Form 300, the accident investigation, clearance or review of any medical personnel, any police reports, and any other pertinent information shall be provided to the COR within 5 calendar days of the accident.
2. A copy of all OSHA notifications, communications, citations, and/or reports shall be provided to the COR within 2 business days of receipt or transmission by the Contractor.
3. The CO and the COR shall be considered Government representatives as detailed in 29 CFR 1904.40. As such, they have full access to all records that must be kept under Part 1904.
4. Any recommended changes to the APP or AHAs shall be submitted as normal Contract submittal revisions.

1.12.B. To reduce the potential for recurrence, the Contractor shall conduct investigation into the cause of any mishaps. This investigation shall also evaluate the APP and associated AHAs and determine if revisions are required.

1. A copy of the accident investigation, clearance or review of any medical personnel, any police reports, and any other pertinent information shall be provided to the COR within 2 weeks of the mishap.
2. Any recommended changes to the APP or AHAs shall be submitted as normal Contract submittal revisions.

1.12.C. Notification

The Contractor shall notify the COR within 4 hours of any accident meeting the definition of OSHA recordable occupational injury of illness, any accident where property or equipment has sustained greater than one hundred dollars ($100) in damage, or any accident in which an employee receives first aid or medical care. Initial notification shall include:

1. Contractor's name
2. Contract number
3. Name of activity being performed
4. Specific location where incident occurred
5. Date and time of incident
6. Names of personnel injured
7. Extent of property damage, if any
8. Brief description of incident (to include type of construction equipment used, personal protective equipment used, etc.)

1.12.D. Accident Reporting Definitions

1. Jobsite

   In regard to notifications and reporting requirements, the jobsite shall include, but not be limited to:

   a. All areas where work under this Contract take place.
   b. The Contractor's local offices, yards, warehouses, and storage areas.
   c. Any borrow pits.
   d. Adjacent land on which USIBWC has an easement.
   e. Adjacent land either owned or leased by the Contractor or USIBWC.
   f. Any haul roads or project access roads which are not on a public roadway.
      (1) When haul roads cross a public roadway, accidents at the location of the crossing are considered part of the jobsite.
   g. When Contractor employees are driving water trucks and haul trucks the jobsite shall include load pick up and drop off locations whether the driver has to exit the vehicle or not.

2. Mishap

   A mishap includes an OSHA recordable occupational injury/illness, property/equipment damage exceeds one hundred dollars ($100), or an employee receives first-aid, medical care, or time off. The Contractor may include near misses in their mishap reporting.

3. OSHA Recordable Accident

   a. Death (29 CFR 1904.7(b)(2))
   b. Days away from work (29 CFR 1904.7(b)(3))
   c. Restricted work to transfer to another job (29 CFR 1904.7(b)(4))
   d. Medical treatment beyond first aid (29 CFR 1904.7(b)(5))
   e. Loss of consciousness (29 CFR 1904.7(b)(6))
   f. A significant injury or illness diagnosed by a physician or other licensed health care professional (29 CFR 1904.7(b)(7))

1.12.E. Evidence Preservation

For OSHA recordable accidents, the Contractor shall preserve PPE, slings, rigging, and/or construction materials pertinent to the accident until the Government has provided written notification to the Contractor that they can be destroyed, reused, or recycled. The Contractor may preserve said items on their own accord after release by the Government.

1.12.F. Monthly Exposure Report
Monthly exposure reporting on IBWC Form 153 is required to be attached to all pay estimates. This report is a compilation of employee hours worked for each month for all site workers, both prime and subcontractor. A separate IBWC Form 153 shall be completed for each Contractor and subcontractor on the jobsite. Each subcontractor must sign their own form; the Prime Contractor shall not sign exposure reports for the subcontractors.

1.12.G. OSHA Citation and Violations
The Contractor shall provide the COR with a copy of each OSHA citation, OSHA report, and Contractor response with 48 hours of receipt or mailing. The Contractor shall correct violations and citations promptly and provide written corrective actions to the COR.

1.12.H. Accidents, injuries, or mishaps involving certified or licensed operators shall be reported to the certifying/licensing organization within 30 days. A copy of this notification shall be provided to the COR.

1. Upon request, the Contractor shall release any all records pertaining to the operator and the incident in question to said organization.

1.13. SITE SAFETY AND HEALTH OFFICER QUALIFICATIONS AND DUTIES

1.13.A. Provide a site Safety and Health Officer (SSHO) at the jobsite at all times during construction to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor.

1. The Contractor may submit qualifications for an alternate SSHO. If an alternate SSHO has been compliance confirmed, then either the primary SSHO or the alternate shall be at the jobsite at all times during construction.

1.13.B. The Contractor Quality Control (CQC) person cannot be the SSHO on this project, even though the QC has safety inspection responsibilities as part of the QC duties.

1.13.C. The SSHO must meet the following requirements:

1. A minimum of 5 years safety work on similar projects.
2. A 30-hour OSHA construction safety class or equivalent within the last 5 years.
3. An average of at least 20 hours of formal safety training each year for the past 5 years. In other words, SSHO shall have at least 100 hours of safety training within the last 5 years.
4. Competent person training as needed.

1.13.D. SSHO Duties

1. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractor's daily quality control report.
2. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and subcontractors.
3. Maintain applicable safety reference material on the worksite.
4. Attend the preconstruction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
5. Implement and enforce accepted APP and AHAs.
6. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. Post a list of unresolved safety and health deficiencies on the safety bulletin board.
7. Ensure subcontractor compliance with safety and health requirements.

8. Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

1.13.E. All Safety and Health Officers shall have the authority to stop unsafe work. Provide a letter of designation that includes specific authority to stop work.

1.13.F. The Government reserves the right to require replacement of any Safety and Health Officer in order to maintain a safe construction site.

1.14. LANGUAGE

For each work group that has employees who do not speak English, the Contractor shall provide a bilingual foreman who is fluent in English and in the language of the workers. The Contractor will implement the requirements of USACE EM 385-1-1, paragraphs 01.B.01, 01.B.02 and 01.C.03 through these foremen.

1.15. BULLETIN BOARD

1.15.A. General

The Contractor shall furnish, install and maintain, for the duration of the Contract, a weather-tight bulletin board at the project site. The information on the bulletin board shall be accessible to all Contract workers at all times, including non-work hours. When the project site is located in an area that is not accessible during non-work hours, the Contractor may place the bulletin board immediately adjacent to the project site or at another location agreed to with the COR.

1.15.B. Information to be Displayed

The following shall be posted on the bulletin board and shall be maintained by the Contractor in a legible condition for the duration of the Contract:

1. Department of Homeland Security, Office of Inspector General, Hotline Poster.
2. The "OSHA It's the Law" Poster (OSHA 3165)
3. The EEO "Know Your Rights" Poster
4. "Employee Rights under the Fair Labor Standards Act" Poster (WH 1088)
5. "Paid Sick Leave for Federal Contractors" Worker Rights under Executive Order 13706 Poster (WH 1090)
6. "Federal Minimum Wage for Contractors" Worker Rights under Executive Order 14026 Poster (WH 1091)
7. "Employee Rights under the Davis-Bacon Act" Poster (WH 1321)
8. "Employee Rights and Responsibilities under the Family and Medical Leave Act" Poster (WH 1420)
9. Notice of "Employee Polygraph Protection Act" Poster (WH 1462)
10. "Your Rights under USERRA" Poster
11. Notice of "Employee Rights under the National Labor Relations Act" Poster
12. Pay Transparency Nondiscrimination Provision Poster
13. The Contingency Evacuation Plan map noting the required meeting areas.
14. The Contingency Evacuation Plan points of contact for local law enforcement and/or Border Patrol.
15. A map denoting the route to the nearest emergency care facility.
16. Emergency phone numbers.
17. The schedule of minimum wage rates for the Contract as required by the Davis-Bacon Act.
18. Copies of the most up-to-date AHAs shall be mounted on or adjacent to the bulletin board.
19. A copy of the most up-to-date APP shall be mounted on or adjacent to the bulletin board.

20. A copy of the Contractor's equal employment policy.

1.15.C. Availability
The posters specified above can be obtained from USIBWC's website under link 'Posters' (see Section 00.60.00) or from the associated Federal Government websites.

1.16. HAZARDOUS OR TOXIC AGENTS

1.16.A. A hazardous or toxic agent is any chemical which is a physical/health hazard per 29 CFR 1910.1200.

1. Hazardous and toxic agents DO NOT INCLUDE any consumer product or hazardous substance, as those terms are defined in the Consumer Product Safety Act (CPSA) and Federal Hazardous Substances Act (FHSA), respectively, where the employer can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended.
2. CPSA covers any article, or component part thereof, produced or distributed for sale or use of a consumer in or around a residence, a school, in recreation, or otherwise.
3. FHSA pertains to labeling common household products or products that could otherwise be brought in or around a residence due to purchase, storage, or use.

1.16.B. The Contractor shall provide to the COR a copy of the Safety Data Sheets (SDS aka MSDS) for each hazardous or toxic agent that the Contractor plans to use for any portion of the work required by this Contract. Compliance confirmation must be received from the COR prior to bringing any hazardous chemicals to the jobsite.

1. Employees shall have access to all SDSs.
2. Applicable information contained in the SDS shall be incorporated in appropriate AHAs.
3. USIBWC encourages Contractors to have SDS available to their employees for all items used on the project, but only those for hazardous or toxic agents shall be submitted to USIBWC.

1.16.C. The Contractor's HazCom portion of their APP shall address the storage and use of all hazardous or toxic agents.

1.16.D. A Hazardous or Toxic Agent Inventory shall be provided and shall include the following information:

1. Explanation of how the agents are to be used on the project.
2. For emergency response purposes, approximate quantities (e.g., liters, kilograms, gallons, pounds) that are onsite or will be on site at any given time shall be provided for each material.
3. A site map will be attached to the inventory showing where inventoried substances are stored.
4. The inventory and site map will be updated annually at a minimum, but as frequently as necessary to ensure it is current and accurately reflects those materials on site.

1.16.E. The Contractor shall follow EM 385-1-1 06.B for all requirements on handling hazardous and toxic agents.

1.17. PROJECT SPECIFIC SAFETY CONCERNS

1.17.A. Abrasive Blasting

1. For abrasive blasting comply with the requirements in Section 06 of EM 385-1-1.
2. In addition to the requirements in Section 20 of EM 385-1-1, use hoses and hose connections of a type to prevent shock from static electricity. Join hose lengths together by approved couplings of a material and type designed to prevent erosion and weakening of the couplings. The couplings and nozzle attachments must fit on the outside of the hose and be designed to prevent accidental disengagement.

1.17.B. Workers Other Than Blasters

1. Protect workers, other than blasting operators working in close proximity to abrasive blasting operations.
2. Use MSHA/NIOSH-approved half-face or full-face air purifying respirators equipped with high-efficiency particulate air (HEPA) filters, eye protection, and hearing protectors (ear plugs and/or earmuffs).

1.17.C. Cleaning Before and After Abrasive Blasting

1. Cleaning with compressed air must be in accordance with Section 20-3(b)(7) of EM 385-1-1 and personnel protected as specified in 29 CFR 1910.134.
2. When cleaning with solvents, provide ventilation where required by 29 CFR 1910.146 or where the concentration of solvent vapors exceeds 10% of the Lower Explosive Limit (LEL).
3. Ventilation must be in accordance with 29 CFR 1910.94, paragraph (c)(5).

1.17.D. Pretreatment of Metals and Concrete with Acids

1. Personnel must be protected in accordance with 29 CFR 1910, Subpart I and Section 05 of EM 385-1-1
2. If this method is used, provide an eyewash in accordance with ANSI Z358.1, paragraph (6).

1.17.E. Paint Mixing

1. Provide local exhaust ventilation in the area where coatings are mixed.
2. This ventilation system must be capable of providing at least 100 linear fpm of capture velocity in the mixing zone.
3. Avoid exposure of skin and eyes by wearing appropriate chemically resistant gloves, safety goggles, and face shields.
4. Provide a personal eyewash unit within close proximity to the mixing operation.
5. All powered mixing equipment must be either pneumatic or double insulated (intrinsically safe), in order to guard against fire or explosion.
6. Individuals who have a history of or develop a sensitivity to epoxy or polyurethane resin systems, must not conduct work tasks or otherwise be exposed to such chemicals.

1.17.F. Paint Spraying

1. Submit a comprehensive written Respiratory Protection Plan in accordance with 29 CFR 1910.134, 29 CFR 1926.62, and EM 385-1-1, Section 05.
2. During all spray-painting operations, spray painters must use approved SCBA or SAR (air line) respirators, unless valid air sampling has demonstrated contaminant levels to be consistently within concentrations compatible with the Assigned Protection Factor (APF) of an air-purifying respirator. Persons with facial hair that may interfere with the seal or valve function of a half or full facepiece style respirator may wear a hood or helmet respirator provided the APF is sufficient for the exposure. Air-purifying chemical cartridge/canister respirators that have a particulate prefilter and are suitable for the specific type(s) of gas/vapor and particulate contaminant(s) may be used for nonconfined space painting, mixing, and solvent cleaning. These respirators may be used provided the measured or anticipated concentration of the contaminant(s) in the breathing zone of the exposed worker does not exceed the APF for the respirator and the gas/vapor has good warning properties or the respirator assembly is equipped with a NIOSH-approved end of service life indicator for the gas(es)/vapor anticipated or encountered.
3. Where paint contains toxic elements that may become airborne during painting in nonconfined spaces, air-purifying half- and full-facepiece respirators or powered air-purifying respirators equipped with appropriate gas vapor cartridges, in combination with a high-efficiency filter, or an appropriate canister incorporating a high-efficiency filter, must be used.

1.17.G. Explosion Proof Equipment

Electrical wiring, lights, and other equipment located in the paint spraying areas must be of the explosion proof type designed for operation in Class I, Division 1, Group D, hazardous locations as required by the NFPA 70. Electrical wiring, motors, and other equipment, outside of but within 20 feet of any spraying area, must not spark and must conform to the provisions for Class I, Division 2, Group D, hazardous locations. Electric motors used to drive exhaust fans must not be placed inside spraying areas or ducts. Fan blades and portable air ducts must be constructed of nonferrous materials. Properly maintain and ground motors and associated control equipment. Electrically bond and ground the metallic parts of all air-moving devices, spray guns, connecting tubing, and duct work.

1.17.H. Further Precautions

1. Workers must wear non-sparking safety shoes.
2. Solvent drums taken into the spraying area must be grounded. Maintain metallic bonding between containers and drums when materials are being transferred.
3. Inspect insulation on all power and lighting cables to ensure that the insulation is in excellent working condition and is free of all cracks and worn spots. Ensure that no connections are within 50 feet of the operation, that lines are not overloaded, and that they are suspended with sufficient slack to prevent undue stress or chafing.

1.17.I. Ignition Sources

Ignition sources, including lighted cigarettes, cigars, pipes, matches, or cigarette lighters, and electronic smoking devices are prohibited in areas of solvent cleaning, paint storage, paint mixing, or paint application.

1.17.J. Health

Prepare and submit a Medical Surveillance Plan and a statement from the examining physician indicating the name of each employee evaluated and any limitations which will preclude the employee from performing the work required. The statement must include the date of the medical evaluation, the physician's name, signature, and telephone number.

1.17.K. Air Monitoring

1. Prepare and submit an Air Monitoring Test Plan.
2. Perform air sampling and testing as needed to assure that workers are not exposed to contaminants above the permissible exposure limit. In addition, provide the COR with a copy of the Air Monitoring Test Report from the laboratory within five working days of the sampling date, including records of air monitoring plans and tests performed. Submit reports as soon as information is available. Also provide results from direct-reading instrumentation on the same day the samples are collected.
3. Prepare and submit an Airborne Sampling Plan detailing the NIOSH Manual of Analytical Methods or Underwriters Laboratories approved equipment, equipment calibration procedures, sampling methods, sampling to be performed, and analytical procedures to be used based on the type of work to be performed and anticipated toxic contaminants to be generated.
4. Include the accredited laboratory per Section 01.43.26 that will be used to conduct the analysis of any collected air samples.

1.17.L. Work over Water

In order to access the downstream side of the radial gates, work will be over the Rio Grande. Ensure that applicable safety plans and procedures are in place in case someone falls into the river.

1.18. CRANES

1.18.A. Before any crane or hoisting equipment is initially installed or placed on the project site, it shall be inspected, tested, and certified in writing by a competent person to be in full compliance with the

manufacturer's recommendations and the requirements of EM 385-1-1 and OSHA 29 CFR 1926 Subpart CC.

1. Excavators used for lifting items using slings and rigging qualifies as hoisting equipment.
2. Inspections shall be in accordance with EM 385-1-1, ASME standards, OSHA, and the manufacturer's recommendations. IBWC Form 265, Safety Inspection for Cranes, shall be used to document the inspections.
3. The Contractor shall provide the COR a minimum of 24-hour notice prior to equipment entering the site so that equipment inspections can be witnessed by the Government.
4. Copies of all crane inspections shall be provided to the COR within 24 hours of the inspection. The inspections shall be included with the Contractor's daily report.

1.18.B. The use of any electronic equipment for entertainment purposes is prohibited while operating a crane or hoisting equipment.

1.18.C. Cranes and hoisting equipment shall only be operated by designated, qualified personnel.

1. Crane operators must have a current certification by a nationally accredited crane operator testing organization and be licensed/recognized by a state or local government, if applicable.
   a. Nationally recognized accrediting agencies include, but are not limited to:
      (1) Crane Institute Certification (CIC)
      (2) National Center for Construction Education and Research (NCCER)
      (3) National Commission for the Certification of Crane Operators (NCCCO)
      (4) Operating Engineers Certification Program (OECP)
   b. No crane operator certification or license will be accepted if it is more than 5 years old.
2. Hoisting/lifting personnel is a critical lift activity and requires a physical examination for the operator.
3. Crane operators must provide documentation that they are physically qualified to operate the equipment.
4. Proof of personnel qualification shall be provided by the Contractor.

1.18.D. All loads must be rigged by a qualified rigger.

1. A qualified rigger shall have the knowledge and expertise to safely perform the required work.
2. The qualified rigger shall inspect the rigging prior to each lift.
3. Proof of rigger's qualification shall be provided by the Contractor.

1.18.E. When the crane operator's view of the point of operation or travel is obstructed, a qualified signal person shall be used.

1. A qualified signal person shall know and understand the signals used at the jobsite.
2. Signal person must pass a practical test and be qualified per OSHA 29 CFR 1926.1428.
3. Proof of signal person's qualification shall be provided by the Contractor.

1.18.F. Cranes and hoisting equipment shall be load tested per EM 385-1-1 prior to lifting any items, performing critical lifts, or moving other large items.

1. Load tests shall be documented by the SSHO and included in the Contractor's daily report.
2. The COR shall be notified at least 24 hours prior to the load test.

1.18.G. Slings, Chains, and Lifting Accessories

1. Never exceed the safe working load of slings, chains, accessories, and other lifting equipment.
2. Inspect lifting equipment, slings, chains, and accessories before each shift.
3. Immediately remove defective equipment.

4. Routinely inspect chain, wire rope, fiber, synthetic webbing, and sling hooks. Remove from service if any are deformed, damaged, or otherwise do not meet inspection criteria and are not safe for use. Cut up and discard slings removed from service due to defects or plainly mark them as being unfit for load-bearing service. Do not repair cracked, broken, or bent end attachments. Replace them.
5. Appropriately protect slings from sharp, rough, or square corners to prevent damage to the strands, wires, or links. Properly store slings when not in use to protect them from damage.
6. Alloy Steel Chains
   a. Durable identification tags must be permanently affixed to welded alloy steel chain slings. The tags must state the size, grade, rated load, and sling manufacturer. Tags for multi-leg slings must also identify the angle the load rating is based on, the reach, and the number of legs.
   b. Remove from service any alloy steel chain assemblies with deformed master or coupling links or cracked hooks or attachments.
7. Wire Rope Slings
   a. Develop and use a system to identify individual slings that include at least the manufacturer and safe working load. If the wire rope sling no longer has an original identification tag, first determine the construction of the sling, then use the applicable capacity chart to find the safe working load.
   b. Inspect slings periodically and remove them from service if one or more of the following conditions are present:
      (1) Six randomly distributed broken wires in one rope lay, or three broken wires in one strand in one rope lay.
      (2) Wear or scraping on one-third the original diameter of outside individual wires.
      (3) Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure.
      (4) Evidence of heat damage.
      (5) Cracked, deformed, or worn end attachments.
      (6) Corrosion of the rope or end attachments.
8. Synthetic Fiber Rope
   a. Each sling must be marked to show the manufacturer, code or stock number, rated load for the various types of hitches used, type of material, and date of manufacture.
   b. Inspect slings and remove them from service if one or more of the following conditions are present:
      (1) Slings shortened with knots, bolts, or other noncompliance confirmed methods.
      (2) Damaged slings.
      (3) Rope less than ½ inch in diameter.
      (4) Slings subjected to a sustained load equal to the rated capacity for more than 3 days.
      (5) Slings made from old rope.
      (6) Slings subjected to chemical environments, unless permitted by the rope manufacturer.
9. Synthetic Webbing Slings
   a. Synthetic webbing slings must be marked or coded with the manufacturer's name, code or stock number, type of material, and the rated capacity for the type of hitches used.
   b. Immediately remove synthetic webbing slings from service if one or more of the following visible defects is present:
      (1) Acid or caustic burns.
      (2) Melting or charring of any part of the surface.
      (3) Snags, punctures, tears, or cuts.
      (4) Broken or worn stitches.
      (5) Wear or elongation exceeding the amount recommended by the manufacturer.
      (6) Distortion of fittings.
      (7) End of service life

10. Synthetic Roundslings
    a. Each roundsling must be tagged to show the manufacturer's identification, code or stock number, type of material in the core and cover (if different), and the rated capacity for the type of hitches used.
    b. Immediately remove roundslings from service if any of the following conditions are present:
       (1) Acid or caustic burns.
       (2) Melting or charring of any part of the sling surface.
       (3) Snags, punctures, tears, or cuts.
       (4) Broken or worn stitches.
       (5) Distortion of fittings.
       (6) Appearance of wear indicators.
       (7) End of service life.
11. Accessories
    The rated capacity of hooks, rings, links, or other attachments used with alloy steel chains must at least equal that of the chains. Do not use job-made hooks, links, or makeshift fasteners made from bolts or rods. A professional engineer must design and certify use of any job-fabricated rigging hardware and test it at twice the rated safe working load or in accordance with applicable standards.
    a. Remove shackles from service if they are bent, distorted, or worn in the crown or pin by more than 10% of their original diameter.
    b. Inspect hooks frequently and remove them from service if they are cracked, severely corroded, have been opened more than 15% of the normal throat opening measured at the narrowest point, or twisted more than 10°From the plane of the unbent hook.

1.18.H. Personnel shall never be under a suspended load.

1.18.I. Hoist personnel is only allowable when the Contractor demonstrates that the assembly, use, and disassembly of conventional means of reaching the work area (such as, personnel hoist, ladder, stairway, aerial lift, elevating work platform, scaffold) is more hazardous, or is not possible because of the project's physical features or work site conditions. Document this determination in the Critical Lift Plan. Perform all hoisting of personnel as required in 29 CFR 1926.1431 (29 CFR 1926 Subpart CC).

1.18.J. Submittals
1. Crane Operator Qualifications
2. Crane Inspection Records
3. Crane Load Testing Records
4. Rigger Qualifications
5. Hoisting Equipment Operator Qualifications
6. Hoisting Equipment Inspection Records
7. Hoisting Equipment Load Testing Records

1.19. CPR AND FIRST AID TRAINING

1.19.A. The Contractor shall provide evidence that all personnel working onsite (whether directly employed by Contractor or employed by a subcontractor) are trained in CPR and first aid.
1. Delivery drivers and other intermittent site workers are not required to be certified, though it is recommended.

1.19.B. CPR and First Aid training records shall be provided as a separate submittal from any other items within this Section.

1.20. CONTINGENCY EVACUATION PLAN

1.20.A. When construction areas are adjacent to the United States-Mexico border, the possibility exists for random acts of violence or other law enforcement incidents. As part of a complete review of site security and employee safety, the Contractor is required to complete a Contingency Evacuation Plan.

1.20.B. The Contingency Evacuation Plan shall include:

1. Employee actions and responsibilities if a random act of violence or a law enforcement apprehension effort impacts the jobsite.
2. Designation of a safe meeting area on or immediately adjacent to the jobsite. For long, linear projects, multiple sites may need to be designated as construction progresses. Ensure that a location is available within walking distance to your employees.
3. Identify personnel responsibilities during implementation of the plan.
4. Identify at least 5 points of contact for local law enforcement and/or Border Patrol to ensure coordination of activities.
5. Establish procedures for employee injuries from these activities or from stray gunfire.

1.20.C. USIBWC has a boilerplate Contingency Evacuation Plan available for Contractors to use and modify.

1.20.D. No site work will be allowed to begin until a Contingency Evacuation Plan has been compliance confirmed by the COR.

1.20.E. All employees working at the site shall be educated as to this plan and to the designated meeting area.

1.20.F. A copy of this plan shall be maintained at the project site at all times. The designated meeting area map shall be maintained on the Company's bulletin board or other appropriate area where it is readily visible throughout the workday.

1.20.G. The Contingency Evacuation Plan shall be provided as a separate submittal from any other items within this Section.

PART 2 - PRODUCTS

2.1. FIRE EXTINGUISHERS

2.1.A. Located on the fire extinguisher label is the UL rating. The UL rating is broken down into Class A and Class B:C ratings. These numerical ratings allow you to compare the relative extinguishing effectiveness of various fire extinguishers. For example, an extinguisher that is rated 4A:20B:C indicates the following:

1. The A rating is a water equivalency rating. Each A is equivalent to 1 1/4 gallons of water. 4A = 5 gallons of water.
2. The B:C rating is equivalent to the amount of square footage that the extinguisher can cover, handled by a professional. 20 B:C = 20 square feet of coverage.

2.1.B. Fire extinguishers are rated as:

1. Class A is ordinary combustibles such as wood and paper.
2. Class B is flammable liquids such as grease, gasoline, and oil.
3. Class C is electrically energized equipment.
4. Class D is flammable metals such as sodium.
5. Class K is cooking media in commercial kitchens.

2.1.C. Minimum fire extinguisher sizes allowed on the project.

1. Hot Work: 4A:80B:C
2. Vehicles Used for Transporting and/or Dispensing Flammable Liquids: 20B:C

3. Within 100 feet of each Pump or Service/Refueling Area: 40B:C
4. LP gas storage areas: 20B:C
5. Within 25 feet of Working Kettles: Two 2A:20B:C
6. Inside Buildings: EM 385-1-1 Table 9-4
7. All Heavy and Load Handling Equipment: 10B:C

2.1.D. Any references to 10 pound fire extinguishers in EM 385-1-1 or OSHA regulations shall be defined as 4A:80B:C.

2.1.E. Only proper A:B:C ratings shall be used in documents related to this project.

2.2. PERSONNEL PROTECTIVE EQUIPMENT (PPE)

2.2.A. Whenever construction conditions require fall protection, confined spaces, asbestos, lead based paint, or other issues that require specific PPE, the Contractor shall ensure that 2 sets of PPE are available for use by Government personnel (usually the COR and another Government employee).

2.2.B. Prior to using this PPE or entering into the construction conditions which require the PPE, the Government personnel shall be provided the same training and PPE fitting that construction personnel receive.

2.2.C. The Contractor and any subcontractors are not required to provide medical monitoring or medical testing for the Government personnel.

PART 3 - EXECUTION

3.1. GENERAL

The Contractor shall incorporate and install all safety measures in accordance with standard industry practice and applicable regulatory requirements.

3.2. BULLETIN BOARD

3.2.A. Immediately upon beginning work under this Contract, the Contractor shall erect and maintain the safety and health bulletin board in a commonly accessed area in clear view of the onsite workers.

3.2.B. The bulletin board must be accessible to workers at all times of the day, every day of the week.

3.2.C. The bulletin board shall be continually maintained and updated and placed in a location that is protected against the elements and unauthorized removal.

3.3. UNFORESEEN HAZARDOUS MATERIAL

3.3.A. The design should have identified materials such as PCB, lead paint and friable and non-friable asbestos. If additional material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the COR immediately.

3.3.B. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to FAR 52.243-4, Changes, and FAR 52.236-2, Differing Site Conditions.

3.4. SAFETY MEETINGS

3.4.A. <u>The Contractor shall conduct daily safety meetings with all personnel working onsite</u>. These meetings shall be attended by the COR and other USIBWC O&M representatives.

3.4.B. At least 24 hours' notice shall be provided to the COR for any other project safety meetings.

3.4.C. These meetings shall be open to attendance by the COR and a local USIBWC O&M representative.

3.5. SAFETY TRAINING FOR SITE SPECIFIC HAZARDS

3.5.A. The Contractor shall ensure that any safety training provided to construction personnel for site specific hazards is also available to the COR and one other Government employee.

1. Examples of training that may include, but not be limited to lock-out/tag-out, fall protection, confined space entry, and respirator training.
2. CPR, first aid, and blood borne pathogen training are not included.

3.5.B. If training is required to safely enter part of the project site, training shall be repeated, at no cost to the Government, if there is a change in COR.

--End of Section--

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SECTION 01.42.00
REFERENCES

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Measurement and Payment 1
1.3. Application of Industry Standards 1
1.4. Sources for Standards and References 1
1.5. Abbreviations 4
1.6. Definition of Terms 10
--End of Section-- 16

1.2. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.3. APPLICATION OF INDUSTRY STANDARDS

1.3.A. Applicability of Standards
In the event of a conflict between the referenced standard and these Contract documents, the provisions of the Contract documents shall apply unless otherwise noted. When a reference standard is specified, comply with the requirements and recommendations stated in the standard, except when they are modified by the Contract documents, or when applicable laws, ordinances, rules, regulations, or codes establish stricter standards.

1.3.B. Copies of Standards
Copies of applicable standards are not bound with the Contract documents. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from publication source.

1.4. SOURCES FOR STANDARDS AND REFERENCES

1.4.A. Referenced industry standards are cited in other Sections of the Technical Specification or in other Contract documents and the following may not include all referenced standards organizations within the Contract documents.

1.4.B. Contact information is included to aid the Contractor. Agencies may be included that are not referenced and although the intention was to include all agencies, some may have been missed. Missing contact information does not relieve the Contractor of the responsibility of performing the work in accordance with all terms of the Technical Specifications and Contract provisions herein.

1.4.C. Per FAR 11.201(b), Contractors may contact the referenced organizations to obtain copies of references and standards.

1.4.D. Federal Government Sources ADD any organizations not listed and delete those not referenced!

1. Code of Federal Regulations (CFR)
Superintendent of Documents, PO Box 371954, Pittsburg, PA 15250-7954
Ph: 202-512-1800; Fax: 202-512-2250; Internet: www.gpo.gov/fdsys/

2. Environmental Protection Agency (EPA)
   Public Information Center
   401 M Street, SW, Washington, DC 20460
   Ph: 202-260-7751 / 800-490-9198; Fax: 202-260-6257; Internet: www.epa.gov
3. Federal Acquisition Regulation (FAR)
   Internet: www.acquisition.gov
4. Federal Geographic Data Committee
   590 National Center, Reston, VA 20192
   Ph: 703-648-5752; Fax: 703-648-5755; Internet: www.fgdc.gov
5. Federal Highway Administration (FHWA)
   Office of Highway Safety (HHS-31).
   400 Seventh St., SW, Washington, DC 20590-0001
   Ph: 202-366-0411; Fax: 202-366-2249
   Order from: Government Printing Office (GPO), Superintendent of Documents
   Washington, DC 20402; Ph: 202-783-3238
6. Federal Sections (FS)
   DLA Document Services
   Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094
   Ph: 215-697-6396; Internet: quicksearch.dla.mil
7. General Services Administration (GSA)
   Ph: 202-619-8968; Internet: www.gsa.gov
8. National Institute for Occupational Safety and Health (NIOSH)
   395 E Street, SW, Ste 9200, Patriots Plaza Building, Washington, DC 20201
   Ph: 800-232-4636; Internet: www.cdc.gov/niosh
9. National Institute for Standards and Technology (NIST)
   100 Bureau Drive, Stop 1070, Gaithersburg, MD 20899
   Ph: 301-975-6478; Internet: www.nist.gov
10. Occupational Safety & Health Administration (OSHA)
    200 Constitution Ave., Washington, DC 20210
    Ph: 800-321-6742; Internet: www.osha.gov
11. United States Army Corps of Engineers (USACE)
    ATTN: Technical Report Distribution Section, Services Branch, TIC
    3909 Halls Ferry Road, Vicksburg, MS 39180-6199
    Ph: 601-634-2355; Fax: 601-634-2542; Internet: www.publications.usace.army.mil
12. United States Code (USC)
    Government Printing Office (GPO)
    732 North Capitol Street, NW, Washington, DC 20401
    Ph: 202-512-1800; Internet: www.gpo.gov/fdsys/
13. US Department of Commerce Product Standards (PS)
    Superintendent of Documents.
    PO Box 371954, Pittsburg, PA 15250-7954
    Ph: 202-512-1800; Fax: 202-512-2250; Internet: www.access.gpo.gov/su_docs
14. US Fish and Wildlife Service (FWS)
    P.O. Box 1306, Albuquerque, NM 87103-1306
    Ph: 505-248-6911; Internet: www.fws.gov/southwest/

1.4.E. State Government Sources

Texas Commission on Environmental Quality (TCEQ)
PO Box 13087, Austin, TX 78711-3087
Ph: 512-239-1000; Internet www.tceq.texas.gov

2. Texas Department of Transportation (TxDOT)
125 East 11th Street, Austin, TX 78701-2483
Ph: 512.416.2576; Fax: 512.416.2599; Internet: www.dot.state.tx.us

3. Texas Historical Commission (THC)
P.O. Box 12276, Austin, TX 78711-2276
Ph: 512-463-6100; Internet: www.thc.state.tx.us

4. Texas Parks and Wildlife Department (TPWD)
4200 Smith School Road, Austin, TX 78744
Ph: (800) 792-1112; Internet: tpwd.state.tx.us

1.4.F. Industry Sources

American National Standards Institute (ANSI)/American Institute of Steel Construction (AISC)
11 West 42nd Street, New York, NY 10036
Ph: 212-642-4900; Fax: 212-398-0023; Internet: www.ansi.org

1. American Society for Nondestructive Testing (ASNT)
PO Box 28518, 1711 Arlingate Lane, Columbus, OH 43228-0518
Ph: 800-222-2768; Fax: 614-274-6899; Internet: asnt.org

2. American Society of Civil Engineers (ASCE)
1801 Alexander Bell Drive, Reston, Virginia 20191-4400
Ph: 800-548-2723; Fax: 703-295-6222; Internet: www.asce.org

3. American Society of Mechanical Engineers (ASME)
345 East 47th Street, New York, NY 10017
Ph: 212-705-7722; Fax: 212-705-7739; Internet: www.asme.org

4. American Society of Safety Engineers (ASSE)
1800 E Oakton St., Des Plaines, IL 60018
Ph: 847-699-2929; Fax: 847-768-3434; Internet: www.asse.org

5. American Water Works Association (AWWA)
6666 West Quincy Avenue, Denver, CO 80235
Ph: 303-794-7711; Fax: 303-794-7310; Internet: www.awwa.org

6. American Welding Society, Inc. (AWS)
550 NW Le Jeune Road, Miami, FL 33126
Ph: 305-443-9353, 800-334-9353; Fax: 305-443-7559; Internet: www.amweld.org

7. Association for Materials Protection and Performance (AMPP)
15835 Park Ten Place, Houston, TX 77084
Ph: 800-797-6223; Internet www.ampp.org

8. ASTM International (ASTM)
100 Barr Harbor Drive, West Conshohocken, PA 19428-2959
Ph: 610-832-9585; Fax: 610-832-9555; Internet: www.astm.org

9. Center for Construction Research and Training, The
8484 Georgia Venue, Ste 1000, Silver Spring, MD 20910
Ph: 301-578-8500; Fax: 301-578-8572; Internet: www.elcosh.org

10. Collaborative Testing Services, Inc.
PO Box 650820, Sterling, VA 20165-0820
Ph: 571-434-1925; Internet: collaborative-testing.com

11. Crane Institute Certification (CIC)
    4011 W 1st St, Sanford, FL 32771
    Ph: 844-646-3362; Fax: 407-878-1342; Internet: www.craneinstitutecertification.com
12. International Safety Equipment Association (ISEA)
    1901 North Moore Street, Arlington, VA 22209
    Ph: 703-525-1695; Fax: 703-528-2148; Internet: www.safetyequipment.org
13. NACE International
    Houston, TX
    Ph: 800-797-6223; Fax: 281-228-6300; Internet: www.nace.org
14. National Center for Construction Education and Research (NCCER)
    13614 Progress Blvd, Alachua, FL 32615
    Ph: 888-622-3720; Fax: 386-518-6303; Internet: www.nccer.org
15. National Commission for the Certification of Crane Operators (NCCCO)
    2750 Prosperity Ave, Ste 505, Fairfax, VA 22031
    Ph: 703-560-2391; Fax: 703-560-2392; Internet: www.nccco.org
16. National Fire Protection Association (NFPA)
    1 Batterymarch Park, Quincy, MA 02269-9101
    Ph: 617-770-3000; Fax: 617-770-0700; Internet: www.nfpa.org
17. NSF International
    PO Box 130140, Ann Arbor, MI 48105
    Ph: 734-769-8010; Fax: 734-769-0109; Internet: www.nsf.org
18. Operating Engineers Certification Program (OECP)
    4210 Riverwalk Parkway, Ste 130, Riverside, CA 92505
    Ph: 951-351-4001; Fax: 951-351-4007; Internet: www.oecp.org
19. Research Council on Structural Connections (RCSC)
    internet: boltcouncil.org
20. SAE International (SAE)
    400 Commonwealth Drive, Warrendale PA 15096
    Ph: 877-606-7323; Internet: www.sae.org
21. The NELAC Institute (TNI)
    PO Box 2439, Weatherford, TX 76086
    Ph: 817-598-1624; Fax: 817-423-6777; Internet: www.nelac-institute.org

1.5. ABBREVIATIONS

Wherever the following abbreviations and terms are used in the Technical Specifications, Contract Drawings, or other Contract documents, the intent and meaning will be as follows:

°F	Degrees Fahrenheit
AAOM	Assistant Area Operations Manager
ABET	Accreditation Board for Engineering and Technology
ACCP	ANST's Central Certification Program
AHA	Activity Hazard Analysis
AIHA	American Industrial Hygiene Association
AMPP	Association for Materials Protection and Performance
AMRDEC	US Army Aviation and Missile Research Development and Engineering Center
AMRL	AASHTO Materials Reference Laboratory
ANSI/AISC	American National Standards Institute/American Institute of Steel Construction
AOM	Area Operations Manager
APF	Assigned Protection Factor
API	American Petroleum Institute

APP	Accident Prevention Plan (Safety Plan)
ARPA	Archaeological Resources Protection Act
ASCE	American Society of Civil Engineers
ASNT	American Society of Nondestructive Testing
ASSE	American Society of Safety Engineers
ASTM	ASTM International
AWS	American Welding Society
BMP	Best Management Practices
BMR	Base Metal Reading
BOP	Beginning of Project
BPVC	Boiler and Pressure Vessel Code
C	Celsius
CAD	Computer Aided Design
CATEX	Categorical Exemption (NEPA)
CBP	Customs and Border Protection
CD	Compact Disc (may be used interchangeably with DVD)
CE	Categorical Exemption (NEPA)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CGP	Construction General Permit (SWPP)
CI	Construction Inspector provided by Construction Management Contractor
CIC	Crane Institute Certification
CLIN	Contract Line Item Number
cm	Centimeter
CM	Construction Management Contractor
CO	Contracting Officer
COB	Close of Business
COND	Construction Management Division, USIBWC
COR	Contracting Officer's Representative
CPM	Critical Path Method
CPR	Cardiopulmonary Resuscitation
CPSA	Consumer Product Safety Act
CPWR	The Center for Construction Research and Training
CQC	Contractor's Quality Control
CQCSM	Contractor's Quality Control Systems Manager
CRP	Contractor's Responsible Person
CSI	Construction Specifications Institute
CSP	Certified Safety Professional
CWA	Clean Water Act, 33 USC 1251 et seq.
CWHSSA	Contract Work Hours and Safety Standards Act
CWI	Certified Welding Inspector
cy	Cubic Yard
D	Diameter
D&O	Deficiency and Omission
DBA	Davis-Bacon Act
DHS	US Department of Homeland Security
DIA	Diameter
DIDP	Diisodecyl Phthalate
DLC	Direct Labor Costs
DOD	Department of Defense
DOE	Department of Energy
DOJ	Department of Justice

DOL	Department of Labor
DOT	Department of Transportation
DPHP	Di 2-propyl Heptyl Phthalate
dpi	Dots per inch
DPS	Defense Printing Service
EA	Each
EA	Environmental Assessment (NEPA)
EHS	Environmental, Health, and Safety
EIS	Environmental Impact Statement (NEPA)
ELCOSH	Electronic Library of Construction Occupational Safety & Health
EM	Engineering Manual
EO	Executive Order
EOF	USIBWC Engineering Office Files (ROW data)
EOP	End of Project
EPA	US Environmental Protection Agency
EPIC	Environmental Permits, Issues, and Comments
ESA	Endangered Species Act, 16 USC 1531 et seq.
ESD	Engineering Services Division, USIBWC
ET	Electromagnetic Testing
FAD	Finance and Accounting Division, USIBWC
FAR	Federal Acquisition Regulations
FCAW	Flux Cored Arc Welding
FEM	Field Environmental Monitor
FEMA	Federal Emergency Management Agency
FFT	Fast Fourier Transform
FHSA	Federal Hazardous Substances Act
FHWA	Federal Highway Administration
FLSA	Fair Labor Standards Act
FONSI	Final of No Significant Impact (NEPA)
FS	Federal Specifications
FSRIA	Farm Security and Rural Investment Act of 2002
ft	Foot/feet
FTA	Federal Transit Administration
FWS	US Fish and Wildlife Service
FY	Fiscal Year (October 1 through September 30)
g	Gram
GIP	Government Inspection Personnel
GMAW	Gas Metal Arc Welding
GPO	Government Printing Office
GSA	Geological Society of America
GSA	US General Services Administration
GTAW	Gas Tungsten Arc Welding
HEPA	High Efficiency Particulate Air
HHRB	Human Health Risk-Based
IA	Telecommunications Industry Association
IARC	International Agency for Research on Cancer
ID	Inside Diameter
IFB	Invitation for Bid
IGE	Independent Government Estimate
IH	Industrial Hygienist
IHLAP	Industrial Hygiene Laboratory Accreditation Program
in	Inch
IPP	Invoice Processing Platform

JHA	Job Hazard Analysis
kPa	Kilopascals
ksi	Thousand pounds per square inch
LBP	Lead-Based Paint
lbs	Pounds
LD	Liquidated Damages
lf	Linear Feet
LPWM	Lead Paint-Containing Waste Material
LS	Lump Sum
m	Meter
MAG	Metal Active Gas Welding, a subset of GTAW
MAX	Maximum
MBTA	Migratory Bird Treaty Act, 16 USC 703 - 712
MEK	Methyl Ethyl Ketone
MFL	Magnetic Flux Leakage
MIAK	Methyl Isoamyl Ketone
MIBK	Methyl Isobutyl Ketone
MIG	Metal Insert Gas Welding, a subset of GTAW
MIN	Minimum
min	Minute
mm	Millimeter
MMA	Manual Metal Arc Welding, also known as SMAW
MOA	Memorandum of Agreement
Mod	Contract Modification
MOU	Memorandum of Understanding
MPa	Megapascals
MPEG	Moving Picture Experts Group file format
MPI	Master Painters Institute
MSDS	Material Safety Data Sheets (has been replaced with SDS)
MT	Magnetic Particle Testing
MUTCD	Manual on Uniform Traffic Control Devices
N	Newton
NA	Not Applicable
NAD27	North American Datum of 1927
NAD83	North American Datum of 1983
NAGPRA	Native American Graves Protection and Repatriation Act, 25 USC 3001 et. seq.
NAVD	or NAVD 88 North American Vertical Datum of 1988
NCCCO	National Commission for the Certification of Crane Operators
NCCER	National Center for Construction Education and Research
NCHRP	National Cooperative Highway Research Program
NCR	No Carbon Required
NDE	Nondestructive Examination
NDT	Nondestructive Testing
NELAC	National Environmental Laboratory Accreditation Conference
NELAP	National Environmental Laboratory Accreditation Program
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act, 42 USC 4321-4347
NFPA	National Fire Protection Association
NGVD	National Geodetic Vertical Datum of 1929
NHPA	National Historic Preservation Act, 54 USC 300101 et seq.
NIOSH	National Institute for Occupational Safety and Health
NIST	US National Institute of Standards and Technology
NLLAP	National Lead Laboratory Accreditation Program

NLRA	National Labor Relations Board
NOI	Notice of Intent (SWPP)
NOT	Notice of Termination (SWPP)
NPDES	National Pollutant Discharge Elimination System
NPS	US National Park Service
NRCS	National Resource Conservation Service
NSF	National Science Foundation
NTP	Notice to Proceed
NTS	Not to Scale
NTSC	National Television System Committee
NWS	National Weather Service
O&M	Operations and Maintenance
OC	On Center
OD	Outside Diameter
ODC	Other Direct Costs
OECP	Operating Engineers Certification Program
OEM	Original Equipment Manufacturer
OIG	Office of Inspector General
OSHA	Occupational Safety and Health Association
oz	Ounce
PCL	Protective Concentration Level
PE	Pay Estimate
PE	Professional Engineer
PEI	Petroleum Equipment Institute
PPE	Personal Protective Equipment
PPV	Peak Particle Velocity
PS	US Department of Commerce Product Standard
psi	Pounds Per Square Inch
PSL	Project Specific Locations
PT	Liquid Penetrant Testing
QA	Quality Assurance
QC	Quality Control
QCSM	Quality Control System Manager
QSM	Quality System Manager
R/W	Right-of-Way
RCRA	Resource Conservation and Recovery Act
RFI	Request for Information
RFP	Request for Proposal
RMAN	Recovered Materials Advisory Notice
ROD	Record of Decision (NEPA)
ROW	USIBWC Right of Way
RT	Radiographic Testing
s	Second
SAE	SAE International
SAW	Submerged Arc Welding
SBU	Sensitive But Unclassified
SCWI	Senior Certified Welding Inspector
SDS	Safety Data Sheets (new name of MSDS)
SDWA	Safe Drinking Water Act
sec	Second
sf	Square Foot
SF	Standard Form
SHPO	State Historical Preservation Officer/Office

SMAW	Shielded Metal Arc Welding
SNAP	EPA's Significant New Alternatives Policy
SOP	Standard Operating Procedure
SOW	Statement of Work or Scope of Work
SSHO	Site Safety and Health Officer
SVOC	Semi-Volatile Organic Compounds
SWPP	Stormwater Pollution Prevention
SWPPP	Stormwater Pollution Prevention Plan
sy	Square Yards
T&E	Threatened and Endangered
TAC	Texas Administrative Code
TBD	To be Determined
TCEQ	Texas Commission on Environmental Quality
TCL	Temporary Construction Limits
TCLP	Toxicity Characteristic Leaching Procedure (EPA SW-846)
TCP	Traffic Control Plan
TDS	Total Dissolved Solids
THC	Texas Historical Commission
TIA	Tentative Interim Amendment
TIG	Tungsten Insert Gas Welding, more properly known as GTAW
TMUTCD	Texas Manual on Uniform Traffic Control Devices
TNI	The NELAC Institute
TPDES	Texas Pollutant Discharge Elimination System
TPH	Total Petroleum Hydrocarbons
TPWD	Texas Parks and Wildlife Department
TRB	Transportation Research Board
TRRP	Texas Risk Reduction Program
TSS	Total Suspended Solids
TX	Texas
TxDOT	Texas Department of Transportation
TXSPC	Texas State Plane Coordinate System
TYP	Typical
UFC	United Facilities Criteria
UL	Underwriter's Laboratory
US	United States
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USC	United States Code
USDA	United States Department of Agriculture
USERRA	Uniformed Services Employment and Reemployment Rights Act
USIBWC	International Boundary and Water Commission, United States Section
UT	Ultrasonic Testing
UTV	Utility Vehicle, Utility Task Vehicle, Utility Type Vehicle
VOC	Volatile Organic Compounds
VT	Visual and Optical Testing
VTC	Video Teleconference
WH	Wage and Hour Division, Department of Labor
WHD	Wage and Hour Division, Department of Labor
WPS	Welding Procedure Specifications
YD	Yard
YR	Year
ZC	Zero Crossing (frequency)

1.6. DEFINITION OF TERMS

Definitions of terms used include the following:

Activity	A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the project. Activities included in a construction schedule consume time and resources.
Actual Cost	Cost to provide labor, material, equipment, and project overhead necessary for the work.
Addendum	Change in Solicitation developed between advertising and bid submittal deadline.
Air Temperature	The temperature measured in Fahrenheit (°F) in the shade, not in the direct rays of the sun and away from artificial heat.
Antiquity	Items associated with archaeological sites and ruins greater than 50 years old. Antiquities are protected by the Antiquities Act of 1906 and 43 CFR 3.
Archaeological Resource	Per ARPA, any material remains of human life or activities which are at least 100 years of age, and which are of archaeological interest.
Archaeological Site	Any place where physical remains of human activities are present which are at least 50 years of age.
Architectural Resource	Buildings and structures, whether functional or collapsed, which are at least 50 years of age and which are of significant, unique, historical, or show architectural significance.
AutoCAD	General term AutoCAD refers to AutoCAD Civil 3D version of the program.
Baseline	A control line offset from the existing facility and/or proposed improvement.
Baseline Schedule	The compliance confirmed schedule used as a basis to judge progress on the project.
Best Management Practices	Methods or measures used for stormwater pollution control.
Bridge	A structure, including supports, erected over a depression or an obstruction (e.g., water, a highway, or a railway) having a roadway or track for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between faces of abutments, spring lines of arches, or extreme ends of the openings for multiple box culverts.
Business Day	All days in a month excluding weekends and holidays.
Buy American Act	Any of FAR clauses 52.225-9, 52.225-10, 52.225-11, or 52.225-12 covered by FAR Chapter 25 and 41 USC Chapter 83.
Calendar Day	All days in a month including weekends, holidays, and both work and non-work days.
Cold Weather	When the air temperature has fallen to or is expected to fall below 40°F during the protection period of concrete which includes placement.
Competent	In geology, competence refers to the degree of resistance of geological materials to erosion and deformation. High resistance to erosion and deformation is a competent material.

Competent Person	A person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
Contract	The agreement between the USIBWC and the Contractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.
Contract Documents	Elements of the Contract including but not limited to the plans, construction drawings, Solicitation, Contract, Technical Specifications, provisions, modifications, and supplemental agreements.
Contract Drawings	The construction drawings identified in Table 2 and any drawings produced as part of this Contract.
Contract Time	The number of calendar days specified for completion of the work including authorized additional working days.
Contracting Officer	Authorized representative of the USIBWC with the authority to enter into, administer and/or terminate Contracts and make related determinations and findings.
Contracting Officer's Representative	An individual, designated in writing, by the Contracting Officer authorized to perform specific technical and administrative functions.
Cost Loading	The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract sum, unless otherwise approved by the CO or COR.
Critical Path	The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
Critical Path Method	An activity-oriented scheduling method, where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the project.
Cultural Resources	Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties; specific items include, but are not limited to, human skeletal remains, archaeological artifacts, records, and material remains related to such properties. Items are at least 50 years of age.
Definable Feature of Work	A task that is separate and distinct from other tasks, has separate control requirements, and is continuous in location of work. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment, although each section of the Technical Specifications may generally be considered as a definable feature of the work, there is frequently more than one definable feature under a particular section. All CLINs are Definable Features of Work. All critical path activities are Definable Features of Work. For example, mobilization, geophysical survey, subsurface utility survey, soil and groundwater sampling, surveying, site cleanup/demobilization, concrete forming, concrete reinforcement installation, concrete placement, clearing and grubbing/site preparation, demolition, excavation, loading, hauling, and disposal of excavated soil, backfill, drywall, framing, plumbing, HVAC etc. are all Definable Features of Work. Except for

	rare occasions, refueling or refueling/mechanic is a Definable Feature of Work on every project.
Detour	A temporary traffic route around a closed portion of a road.
Drawings	Construction Contract Drawings that show the location, character, dimensions, and details of the work and are a part of the Contract documents. Plans are the same as drawings.
Easement	A real property right acquired by one party to use land belonging to another party for a specified purpose.
Employee	An employee is an individual who works under the supervision or control of the Contractor in return for wages or salary. An independent Contractor with no affiliation to any other subcontractor, vendor, or supplier on this project working under direct supervision of the Contractor shall be considered an employee.
Engineer	A professional engineer or engineering firm registered in the state where work is performed.
Float	The measure of leeway in starting and completing an activity in a CPM schedule. Float is not for the exclusive use or benefit of either the Government or the Contractor by is jointly owned. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned project completion date.
Flood	An overflow of water that submerges land which is usually dry. Flooding can be caused by any source of water including, but not limited to, rain, runoff, river flow, dam releases, and structural failures.
Floodplain	Area between the riverside toe of the levee and the active bank of the river.
Government	Refers to International Boundary and Water Commission, United States and Mexico, United States Section.
Ground Disturbing Activities	A ground disturbance is any work or activity that results in a disturbance of the earth including, but not limited to: excavating, digging, trenching, plowing, drilling, tunneling, auguring, backfilling, blasting, topsoil stripping, land leveling, placing embankment, quarrying, clearing and grubbing, hauling, burning, tree removal, fencing, discing, and seeding.
Hazardous Materials	Hazardous materials or waste include but are not limited to explosives, compressed gas, flammable liquids, flammable solids, combustible liquids, oxidizers, poisons, radioactive materials, corrosives, etiologic agents and other material classified as hazardous by 40 CFR 261, or applicable state and federal regulations.
Holidays	Holidays recognized by the Federal Government: New Year's Day, Birthday of Martin Luther King, Jr., Washington's Birthday, Memorial Day, Juneteenth, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day. See www.opm.gov/policy-data-oversight/pay-leave/federal-holidays/ for a complete list of dates for any given year.
Homogeneous	Of uniform structure or composition throughout. Alike in construction.

Hot Weather	One or a combination of the following conditions that tends to impair the quality of freshly mixed or hardened concrete by accelerating the rate of moisture loss and rate of cement hydration, or otherwise causing detrimental results: high ambient temperature, high concrete temperature, low relative humidity, and high wind speed.
Independent Assurance Tests	Tests used to evaluate the sampling and testing techniques, and equipment used in the acceptance program.
Inspector	The firm or person assigned by the USIBWC to inspect for compliance with the Contract any or all parts of the work and the materials used.
Jobsite	See Section 01.35.23 1.12.A.1.a. through g. for definition.
Limits of Construction	An area with established boundaries, identified within the Project's right of way and easements, where the Contractor is permitted to perform the work.
Maintenance Road	A road usually on top of or adjacent to the facility, primarily utilized by the USIBWC and DHS.
Materials	The words "material" or "materials" is used in these Technical Specifications to denote items furnished by the Contractor which shall be construed to mean equipment, machinery, product, component, or any other item required to be incorporated in the work.
Milestone Date	The date that a specific portion of the work is to be completed, before the completion date for all work under the Contract.
Mobilization	The initial stage of the construction project where preparations occur onsite prior to the commencement of any work. The preparations include movement of personnel, equipment, supplies, and incidentals to the site and setup of all offices, buildings, and other facilities necessary for the work. See Section 01.71.13 for additional details.
Modification	Any written change in the terms of a Contract.
New	Item composed of previously unused components, whether manufactured from virgin material, recovered material in the form of raw material, or materials and by-products generated from, and reused within, an original manufacturing process, provided that the supplies meet Contract requirements, including but not limited to, performance, reliability, and life expectancy.
Notice to Proceed	A written notice to the Contractor to begin Contract work.
Pavement	That part of a roadway having a constructed all-weather surface. Pavement Structure Combination of surface course, flexible base, and subgrade to support the traffic load and distribute it to the roadbed:
Pavement Structure	Combination of surface course, base course, and subgrade to support the traffic load and distribute it to the roadbed: (1) Surface Course - Pavement structure layers designed to accommodate the traffic load. The top layer resists skidding, traffic abrasion, and the disintegrating effects of climate and is sometimes called the wearing course. (2) Base Course - One or more layers of specified material thickness placed on a subgrade to support a surface course. (3) Subgrade - The top surface of a roadbed upon which the base and surface courses (and curbs, if applicable) are constructed.

Pesticide	Any substance or mixture of substances intended for preventing, destroying or controlling any pest, including vectors of human or animal disease, unwanted species of plants or animals, or substances which may be administered to animals for the control of insects, arachnids or other pests in or on their bodies.
Plans	Construction Contract Drawings that show the location, character, dimensions, and details of the work and are a part of the Contract documents. Plans are the same as drawings.
Project	The facility and its associated appurtenances that are being constructed under this Contract.
Project Area	The worksite, all adjacent properties, and the general geographical area surrounding them.
Project Specific Location	Areas including, but not limited to, borrow pits, material sources, waste sites, parking areas, stockpiles, storage areas, field offices, staging areas, haul roads, etc. both on and off the ROW.
Quality Assurance	Sampling, testing, inspection, and other activities conducted by the Government to assure that the Contractor's quality control is being conducted properly.
Quality Control	Sampling, testing and other process control activities conducted by the Contractor to monitor production and placement operations in order to maintain required quality.
Recondition	To restore to the original normal operating condition by readjustments and material replacement.
Rehabilitate	To restore to original condition, operation, and/or capacity. To make as new.
Remanufactured	Factory rebuilt to original specifications.
Resource Loading	The allocation of manpower and equipment necessary for the completion of an activity as scheduled.
Right-of-Way	A general term denoting property owned or controlled by the USIBWC. Also, any property on which USIBWC has an easement.
Road or Street	General terms denoting a public way for purposes of vehicular travel, primarily for access to residence, business, or other abutting property. Also used for USIBWC's O&M road which is not a public way.
Roadway Gravel	Aggregate designed as the surface of a gravel roadway; also known as aggregate surface.
Scarification	Scratching the surface of a compacted layer to facilitate bonding with the next layer and avoid potential lamination between compacted layers.
Site of Work	Used in reference to Davis Bacon Act and as defined in 29 CFR 5.2(l).
Slide Gate	A mechanical apparatus that controls the flow of water (through a pipe at the bottom of the levee) usually from the landside of the levee to the floodway or channel.
Specifications	Requirements issued or made pertaining to the method and manner of performing the work or to quantities and qualities of materials to be furnished under the Contract.

Subcontract	The agreement between the Contractor and subcontractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.
Subcontractor	An individual, partnership, limited liability company, corporation, or any combination thereof that the Contractor sublets, or proposes to sublet, any portion of a Contract. Any entity providing services to the Contractor or their subcontractors is a subcontractor. Material suppliers/vendors and owner-operator truck drivers are not subcontractors.
Subsidiary	Materials, labor, or other elements that because of their nature or quantity have not been identified as a separate bid item and are considered included within the items on which they necessarily depend.
Superintendent	The representative of the Contractor who is available at all times and able to receive instructions from the USIBWC CO or COR and is able to act for the Contractor.
Surplus Materials	Any debris or material related to the Contract not incorporated into the work.
Utility	Privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, power, heat, gas, oil, water, waste, or storm or irrigation water; the utility company.
Verification Tests	Tests used to verify accuracy of QC and QA testing.
Vendor	An individual, partnership, limited liability company, corporation, or any combination thereof that provides goods to the Contractor or their subcontractors. Also called a material supplier.
Weather Advisory	An announcement that hazardous weather or hydrologic event is occurring, imminent, or likely. Advisories are less serious than warnings. Advisories are for events that cause significant inconvenience and if caution is not exercised, could lead to situations that may threaten life or property.
Weather Warning	An announcement that hazardous weather or hydrologic event is occurring, imminent, or likely. A warning means weather conditions pose a threat to life or property. People in the path of the storm need to take protective action.
Weather Watch	An announcement that the risk of a hazardous weather or hydrologic event has increased significantly, but its occurrence, location, or timing is still uncertain. Warnings are intended to provide enough lead time so those who need to set plans in motion can do so. A watch means that hazardous weather is possible. People should have a plan of action in case a storm threatens, and they should listen for later information and possible warnings.
Work	The furnishing of all labor, materials, equipment and other incidentals necessary for the successful completion of the Contract.
Work Day	Contractor's scheduled days of work, whether work is performed or not.
Work Week	Normal, non-overtime, work week accounts for 40 hours in 4 or 5 work days.
Worksite	All areas where work under this Contract take place, including, but not limited to, the Contractor's local offices, yards, warehouses, lay down

areas, staging areas, storage areas, haul roads not on a public roadway, material disposal sites, PSLs, and borrow pits meeting the definition of Section 01.29.15 1.12.

--End of Section--

SECTION 01.43.26
TESTING AND INSPECTION AGENCIES

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. Record Documents 2
1.6. Measurement and Payment 2
1.7. General 2
1.8. Definitions 2
1.9. Testing Laboratories. 2
1.10. Technicians 3
1.11. Organizational Changes 3
1.12. Laboratory Affiliation 3
1.13. Contractor Responsibility 3
1.14. Notification of Noncompliance 4
Part 2 - Execution 4
2.1. Testing Procedures 4
2.2. Testing and Inspection 4
--End of Section-- 5

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.3. REFERENCE STANDARDS

1.3.A. Association for Materials Protection and Performance (AMPP)

1. Certified Coatings Inspector / CIP Level 2 Certification

1.3.B. ASTM International (ASTM)

1. ASTM E329-23 Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection
2. ASTM E699-16 Standard Practice for Evaluation of Agencies Involved in Testing, Quality Assurance and Evaluating of Building Components

1.3.C. Environmental Protection Agency (EPA)

1. National Lead Laboratory Accreditation Program (NLLAP)

1.3.D. American Industrial Hygiene Association (AIHA)

1. Industrial Hygiene Laboratory Accreditation Program (IHLAP)

1.3.E. The NELAC Institute

1. National Environmental Laboratory Accreditation Program (NELAP)

The State of Texas

1. Rules Concerning the Practice of Engineering and Professional Engineering Licensure, Texas Administrative Code (TAC) Title 22, Part 6
2. Texas Engineering Practice Act, Texas Occupations Code, Title 6

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Environmental Testing Agency Qualifications
   a. Prior to start of work, certification must include accreditation for heavy metal analysis, list of experience relevant to analysis of lead in air, and a Quality Assurance and Quality Control Program.
   b. Submit a certificate for the Certified Lead Laboratory.
   Provide documentation showing testing laboratory is accredited.
2. Testing Technician and Coating Inspector Qualifications
   Provide copies of all technician qualification certificates and training.
3. Equipment Calibration
   Provide calibration reports for each nuclear density gauge used on the project.

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. Test Reports

1.6. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.7. GENERAL

1.7.A. The Contractor shall pay for all services of all independent testing laboratories required to perform the specified quality control testing and required to ensure that all Contract requirements are met.

1.7.B. All work requiring a PE stamp shall be stamped in the respective state of the worksite.

1.8. DEFINITIONS

1.8.A. Engineering tests include, but are not limited to, tests established or standardized by ASTM, TxDOT, and AASHTO.

1.8.B. Environmental tests include, but are not limited to, tests established or standardized by TCEQ and EPA.

1.8.C. Agricultural tests include, but are not limited to, soil analyses of pH, phosphorus, potassium, calcium, magnesium, sodium, sulfur, copper, zinc, chloride, total dissolved salts, conductivity, and sodium absorption ratio.

1.9. TESTING LABORATORIES.

1.9.A. The Government reserves the right to check the laboratory equipment in the proposed laboratory for compliance with the standards set forth in the Contract Specifications and to check the laboratory technician's testing procedures and techniques.

1.9.B. The Contractor shall employ a certified independent laboratory to perform sampling and testing or provide an onsite laboratory with testing apparatus and qualified laboratory technicians.

1. Environmental testing laboratories shall be accredited by a National Environmental Laboratory Accreditation Program (NELAP) accreditation body or by the Industrial Hygiene Laboratory Accreditation Program (IHLAP).
2. Environmental testing laboratories performing lead testing shall be accredited by National Lead Laboratory Accreditation Program (NLLAP).

1.9.C. **All engineering laboratory tests shall be signed and sealed by the engineering laboratory's professional engineer** licensed to practice in the State of Texas (Texas' Rules Concerning the Practice of Engineering and Professional Licensure §137.33(f)).

1. Testing laboratories must be experienced in the type of testing work to be done. All laboratories must meet the requirements of ASTM E699 and ASTM E329.

1.9.D. Laboratories shall calibrate measuring devices, laboratory equipment, and instruments at established intervals against certified standards in accordance with National Institute of Standards and Technology (NIST) requirements.

1. Coating Thickness Gauge Qualification
   a. Submit certification documentation of manufacturer's or NIST calibration.
   b. Gauges used must have an accuracy range of +/- 3%.

1.9.E. Upon request, the testing laboratory shall make measuring and testing devices available for use by the Government for verification tests.

1.10. TECHNICIANS

1.10.A. A coating inspector who is certified as a AMPP CIP Level 2 (previously referred to as SSPC-PCI Level 2 or NACE CIP Level 2) for all surface preparation and painting activities is required. Submit a copy of the applicable certificates. Submit all renewals if they occur during the contract performance period. Renewals must be achieved prior to expirations occurring.

1.10.B. For all other work, industry standard certification and/or training shall be required for all technicians and inspectors.

1.11. ORGANIZATIONAL CHANGES

1.11.A. The Contractor shall obtain the COR’s acceptance before replacing any testing laboratories or technicians. Requests for changes shall include the names, qualifications, duties, and responsibilities of each proposed replacement.

1. Multiple technicians can be confirmed for use on the project allowing flexibility in day to day operations.

1.11.B. The Government reserves the right to require the Contractor to make changes in the quality control, including removal of personnel, laboratories, or technicians as necessary, to obtain the quality specified.

1.12. LABORATORY AFFILIATION

All laboratories employed to perform testing under this Contract shall be unaffiliated with the Contractor. Additionally, the companies cannot have common ownership or management.

1.13. CONTRACTOR RESPONSIBILITY

Employment of testing laboratories in no way relieves the Contractor of the obligation to perform work in accordance with the requirements of the Contract.

1.14. NOTIFICATION OF NONCOMPLIANCE

The Government will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification.

PART 2 - EXECUTION

2.1. TESTING PROCEDURES

2.1.A. The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to Contract requirements. Testing includes operation and/or acceptance tests when specified.

2.1.B. The Contractor shall procure the services of a compliance confirmed testing laboratory.

2.1.C. The Contractor shall perform the following activities and shall record and provide the following data:

1. Verify that testing procedures comply with Contract requirements.
2. Verify that facilities and testing equipment are available and comply with testing standards.
3. Check test instrument calibration data against certified standards.
4. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
5. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC daily report for the date taken. Section paragraph reference, location where tests were taken and the sequential control number identifying the test will be given. If compliance confirmed by the Government, actual test reports may be submitted later with the reference to the test number and date taken.
   a. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Government.
   b. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this Contract.

2.2. TESTING AND INSPECTION

2.2.A. See individual Specification Sections for testing required.

2.2.B. Testing Laboratory Duties

1. Provide qualified personnel at site. Cooperate with COR and Contractor in performance of services.
2. Perform specified sampling and testing of products in accordance with specified standards.
3. Ascertain compliance of materials and mixes with requirements of Contract documents.
4. Promptly notify COR and Contractor of observed irregularities or nonconformance of work or products.
5. Perform additional tests and inspections required by COR.
6. Submit reports of all tests/inspections specified.

2.2.C. Determination of Passing/Failure of Tests

1. Determination of pass or failing compaction tests shall be determined to 1 decimal place.
   a. For example, if the compaction percentage is determined to be 94.7% and the minimum required is 95.0%, then the test is a failure.
2. Minimum testing values shall be considered to be inclusive of 1 decimal place.
   a. For example, if the minimum allowable compaction is 95%, it shall be assumed to be 95.0%.
   b. Or, if the maximum loss in a soundness test is 18%, it shall be assumed to be 18.0%

c. Any values under the specified minimum are failures.

2.2.D. Limits on Testing/Inspection Laboratory Authority

1. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract documents.
2. Laboratory may not approve or accept any portion of the work.
3. Laboratory may not assume any duties of the Contractor.
4. Laboratory has no authority to stop the work except for safety situations.

2.2.E. Contractor Responsibilities

1. Provide laboratory adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel and provide access to the work and to manufacturers' facilities.
3. Provide incidental labor and facilities.
   a. To provide access to work to be tested/inspected.
   b. To obtain and handle samples at the site or at source of products to be tested/inspected.
   c. To facilitate tests/inspections.
   d. To provide storage and curing of test samples.
4. Notify COR and laboratory at least 24 hours prior to expected time for operations requiring testing/inspection services.

2.2.F. Retesting required because of nonconformance to specified requirements shall be performed by the same agency on instructions by COR.

2.2.G. Retesting required because of nonconformance to specified Contract requirements shall be paid for by Contractor.

--End of Section--

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SECTION 01.45.00
QUALITY CONTROL

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. Record Documents 2
1.6. Measurement and Payment 2
1.7. Quality Control Plan 2
1.8. Definable Feature of Work 3
1.9. Contractor Overall Responsibility 4
1.10. Quality Control Coordination Meeting 4
1.11. Quality Control Organization 4
1.12. Control of Phases of Work 5
1.13. Completion of Work Inspections 7
1.14. Documentation 8
1.15. Notification of Noncompliance 9
Part 2 - Products (Not Used) ..... **Error! Bookmark not defined.**
Part 3 - Execution 9
3.1. Daily Reports and Attachments 9
3.2. Control Of Installation 10
3.3. Tolerances 10
3.4. Defect Assessment 10
--End of Section-- 10

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.70.00-Delivery of Data to USIBWC

1.2.B. Section 01.33.00-Submittal Procedures

1.2.C. Section 01.35.23-Safety

1.2.D. Section 01.43.26-Testing and Inspection Agencies

1.2.E. Section 01.51.00-Temporary Utilities

1.2.F. Section 01.57.19-Temporary Environmental Controls

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR 52.211-10, Commencement, Prosecution and Completion of Work
2. FAR 52.246-12, Inspection of Construction

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Quality Control Plan
   The Contractor shall furnish for review by the Government, the Contractor Quality Control Plan (CQC Plan) proposed to implement the requirements of FAR 52.246-12, Inspection of Construction and the Contract.
2. Quality Control System Manager Qualifications
3. Alternate Quality Control System Manager Qualifications
4. Manufacturer's Field Personnel Qualifications, if required

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. IBWC Form 163, Daily Quality Control Reports
2. IBWC Form 162, Preparatory Phase Meeting
3. IBWC Form 166, Initial Phase Meeting
4. QC tests and reports organized by type of material, type of test, and location if not provided under another Specification section
5. QC Logs and Inspections (records and forms identified by Contractor in their QC Plan)
6. IBWC Form 163A, Equipment Mobilization/Demobilization
7. Contractor's Completion of Work Inspections

1.6. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.7. QUALITY CONTROL PLAN

1.7.A. General

1. The Contractor's Quality Control (CQC) Plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. Construction will be permitted to begin only after acceptance by the Government of the CQC Plan or acceptance of an interim plan applicable to the particular feature of the work to be started.
2. Work outside of the features of the work included in a compliance confirmed interim plan will not be permitted to begin until compliance confirmation of a full CQC Plan or another interim plan containing the additional features of work to be started.

1.7.B. Contents of the CQC Plan

1. The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents.
2. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC Plan shall implement the 3 phase control system for all aspects of the work specified. The CQC System Manager shall report to the project manager or someone higher in the Contractor’s organization. Project Manager in this context shall mean the individual with responsibility for the overall management of the project including quality and construction.

3. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the Contract. A copy of this letter will be furnished to the Government.
4. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers and purchasing agents. The procedures shall be in accordance with Section 01.33.00.
5. Control, verification, and acceptance of testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency and person responsible for each test.
6. Procedures for tracking preparatory, initial and follow up control phases and control, verification and acceptance tests including documentation.
7. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.
8. Reporting procedures, including proposed reporting formats.
9. List of the Definable Features of Work.
10. The Government may supplement the CQC testing with independent assurance tests and inspections (Quality Assurance). Acceptance of the work by the CQC System Manager does not mean the Government accepts the work.
11. Do not include lab certifications, technician certifications, or other items noted in Section 01.43.26.
12. Do not include resumes, training, or certifications of any personnel.

1.7.C. Acceptance of the CQC Plan

1. Acceptance of the Contractor's QC Plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction.
2. The Government reserves the right to require the Contractor to make changes in the CQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

1.7.D. Notification of Changes

After compliance confirmation of the CQC Plan, the Contractor shall notify the Government COR in writing a minimum of 7 calendar days prior to any proposed change. Proposed changes are subject to acceptance by the Government.

1.8. DEFINABLE FEATURE OF WORK

1.8.A. A definable feature of work (DFOW) is a task that is separate and distinct from other tasks, has separate quality control requirements, and is continuous in location of work. It could be identified by different trades or disciplines or it could be work by the same trade in a different environment. Although each section of the Technical Specifications may generally be considered as a definable feature of the work, there is frequently more than one definable feature under a particular section.

1. All CLINs are comprised of at least one definable feature of work.
2. All critical path activities are comprised of at least one definable feature of work.
3. At a minimum, the following tasks are DFOW on this project:
   a. Crane use
   b. Demolition
   c. Install BMPs
   d. Lead assessment/testing
   e. Lead removal and disposal
   f. Lubricating and greasing gates

g. Manlifts
h. Mobilization
i. Painting system application
j. Refueling or refueling/mechanic
k. Replacement of gate seals
l. Scaffolding
m. Site cleanup/demobilization
n. Tensioning gate cables

1.8.B. An excellent way to separate items into definable features is to determine if the safety risks are the same. Each definable feature of work requires an AHA (Section 01.35.23 Paragraph 1.11).

1.9. CONTRACTOR OVERALL RESPONSIBILITY

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract clause in FAR 52.246-12, Inspection of Construction. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product that complies with the Contract requirements. The system shall cover all construction operations, both onsite and offsite and shall be keyed to the proposed construction sequence.

1.10. QUALITY CONTROL COORDINATION MEETING

1.10.A. After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Government CO or COR and discuss the Contractor's quality control system.

1.10.B. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's management and control with the Government's Quality Assurance (QA).

1.10.C. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the COR. The minutes shall become a part of the Contract file.

1.10.D. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures that may require corrective action by the Contractor.

1.11. QUALITY CONTROL ORGANIZATION

1.11.A. The Contractor shall identify an individual within their organization, as the CQC System Manager, who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor.

1. The CQC System Manager (CQCSM) shall be onsite at all times whenever Contract work is in progress unless the CQCSM is on a scheduled absence.
2. The CQCSM shall be an employee of the Contractor.
   a. An independent Contractor who is employed and paid by the Contractor shall be considered an employee.
   b. If the CQCSM is an independent Contractor, the CQCSM shall only be performing these QC duties and shall not be providing any other subcontracted service nor shall they be affiliated with any other subcontractor on this project.
3. An alternate for the CQC System Manager will be identified in the plan to serve in the event of the CQC System Manager's absence.
4. Period of absence for CQCSM shall not exceed 3 weeks at any one time and not more than 30 workdays during a calendar year.

5. If the CQCSM is absent, the alternate CQCSM shall perform all CQC duties identified.
6. The requirements for the alternate will be the same as for the designated CQC System Manager.

1.11.B. CQC Organizational Staffing

1. The Contractor shall provide a CQC staff which shall be at the jobsite at all times during progress, with complete authority to take any action necessary to ensure compliance with the Contract.
2. Testing laboratories and onsite technicians are considered critical elements in the Contractor's QC Plan. See Section 01.43.26 for requirements.
3. The Contractor shall submit a resume of the CQC staff qualifications to the COR for compliance confirmation.
   a. At a minimum, this shall include:
      (1) CQC Systems Manager
      (2) Alternate CQC Systems Manager

1.11.C. CQC System Manager

1. The CQC System Manager shall have a degree earned from an ABET accredited engineering program (www.abet.org), be a registered professional engineer in the State of Texas, be an AMPP Senior Certified Coatings Inspector (Level 3), or be an AMPP Certified Coatings Inspector (Level 2) with the Marine Coatings Inspection Specialty.
2. The CQCSM shall have a minimum of 2 years of construction experience on similar recoating/repainting projects.
3. The CQCSM shall have had a minimum of 24 hours of quality control training.
4. The CQC System Manager will be responsible for implementation of the CQC Plan outlined above and **shall have no other duties**.

1.11.D. Organizational Changes

1. The Contractor shall obtain the Government COR's acceptance before replacing any member of the CQC staff. Requests shall include the names, qualifications, duties and responsibilities of each proposed replacement.
2. The Government reserves the right to require the Contractor to make changes in the CQC staff, including removal of personnel, laboratories, or technicians as necessary, to obtain the quality specified.

1.12. CONTROL OF PHASES OF WORK

1.12.A. The CQC Plan shall include at least three phases of control to be conducted by the CQC System Manager for all definable features of work, as follows.

1.12.B. Preparatory Phase

1. The preparatory phase shall be performed prior to beginning work on each definable feature of work. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), the SSHO, the foreman responsible for the definable feature of work, and, if possible, the applicable work crew. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet Contract Specifications.
2. A Preparatory Phase Meeting shall, at a minimum, include:
   a. A review of each paragraph of applicable Technical Specifications.
   b. A review of the Contract Drawings.
   c. A check to assure that all materials and/or equipment have been tested, submitted and compliance confirmed.

d. A check to assure that provisions have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the Contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to compliance confirmed shop drawings or submitted data and are properly stored.

g. A review of the appropriate safety measures, inspections, and activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for constructing the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that phase of work.

i. A discussion to determine how much and what specific work must be completed prior to the Initial Phase Meeting.

j. The Government shall be notified at least 48 hours in advance of beginning any of the required action of the preparatory phase.

k. The results of the preparatory phase meeting shall be documented on IBWC Form 162 and attached to the Construction Contractor's daily report.

l. The preparatory phase shall be repeated if there are changes in the applicable CQC staff, onsite supervision, if work on a definable feature of work is resumed after a substantial period of inactivity, or if other problems develop.

1.12.C. Initial Phase

1. The initial phase shall be accomplished at the beginning of a definable feature of work. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), the SSHO, the foreman responsible for the definable feature of work, and the applicable work crew. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet Contract Specifications.

2. The Initial Phase Meeting shall, at a minimum, include

   a. Review of preparatory phase meeting (IBWC Form 162) documentation.

   b. A check of initial work to ensure that it is in compliance with Contract requirements.

   c. Verify required control, inspection, and testing are properly implemented.

   d. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards.

   e. Resolve all differences.

   f. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker. Update AHAs and safety plan, if required.

   g. Review project schedule.

   h. The Government shall be notified at least 24 hours in advance of beginning the initial phase.

   i. The results of the initial phase meeting shall be documented on IBWC Form 166 and attached to the Construction Contractor's daily report. Exact location of initial phase shall be indicated for future reference and comparison with follow up phases.

   j. The initial phase shall be repeated for each new crew to work onsite, if there are changes in the applicable CQC staff, onsite supervision or work crew, if work on a definable feature of work is resumed after a substantial period of inactivity, or if other problems develop.

1.12.D. Follow-up Phase

Daily checks shall be performed to assure continuing compliance with Contract requirements, including control testing, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation.

1. Final follow-up checks shall be conducted, and all deficiencies corrected prior to the start of additional features of work that may be affected by the deficient work.
2. The Contractor shall not build upon or conceal nonconforming work.

1.13. COMPLETION OF WORK INSPECTIONS

1.13.A. Contractor Inspection

At the completion of all work or any increment thereof established by a completion time stated in the FAR Clause 52.211-10, entitled "Commencement, Prosecution and Completion of work," or stated elsewhere in the Contract documents, the CQC System Manager shall conduct an inspection of the work and develop a "Contractor's Punch List" of items of work which do not conform to the Contract documents. Such a list of deficiencies shall be included in the CQC documentation and shall include the estimated date by which the deficiencies will be corrected.

1. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected and so notify the Government.
2. These inspections and any deficiency corrections required by this paragraph will be accomplished within the time stated for completion of the entire work.

1.13.B. Contractor and Government Pre-Final Inspection

The CQC System Manager, Contractor's superintendent, or other primary management person, and the Government will be in attendance at this inspection. The Pre-Final Inspection will be formally scheduled by the Government based upon notice from the Contractor. This notice will be given to the Government at least 14 calendar days prior to the Pre-Final Inspection. The notice must include the Contractor's assurance that all deficiencies listed in the "Contractor's Punch List" developed during the Contractor Inspection phase have been corrected and all Contract work is complete and acceptable by the date scheduled for the Pre-Final Inspection.

1. Failure of the Contractor to have all Contract work acceptably complete will be cause for the Government to cancel the inspection and bill the Contractor for the Government's additional inspection costs in accordance with the FAR 52.246-12, "Inspection of Construction."
2. At this inspection the Government will develop a "Government's Punch List" of incomplete and/or unacceptable work performed under the Contract and will subsequently furnish this list to the Contractor.
3. Failure of the Government to detect and list all incomplete and/or unacceptable work during this inspection will not relieve the Contractor from acceptably performing all work required by the Contract documents.
4. The Government, at its option, may accept this inspection as the final acceptance inspection if in its opinion, the completion status of the inspected facilities and other work performed under the Contract, warrant this consideration.

1.13.C. Contractor and Government Final Acceptance Inspection

The CQC System Manager, the superintendent or other primary management person, and the Government will be in attendance at this inspection. The final acceptance inspection will be formally scheduled by the Government based upon notice from the Contractor. This notice will be given to the Government at least 14 calendar days prior to the final acceptance inspection. The notice must include the Contractor's

assurance that all items in the "Government's Punch List" developed during the Contractor and Government Pre-Final Inspection phase have been corrected.

1. Failure of the Contractor to have all Contract work acceptably complete for this final acceptance inspection will be cause for the Government to cancel the inspection and bill the Contractor for the Government's additional inspection costs in accordance with FAR Clause 52.246-12, Inspection of Construction.
2. This inspection will be considered another Contractor and Government Pre-Final Inspection, and the Contractor must schedule another Contractor and Government Final Acceptance Inspection after all items have been corrected.
3. Otherwise, this inspection will be considered a Contractor and Government Final Acceptance Inspection if all items in the "Government's Punch List" and all other work are considered acceptably complete by the Government.

1.14. DOCUMENTATION

1.14.A. The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall include, as a minimum, the following information:

1. Weather Conditions at the Worksite
   a. When determining minimum and maximum temperatures at the worksite, thermometers placed onsite shall be used. Use of weather.com or other online weather services is not valid for determining the worksite temperature.
   b. Additional thermometers may be required to monitor concrete placements.
2. Contractor/subcontractor and their area of responsibility.
3. Operating plant/equipment with hours worked, idle, or down for repair.
4. Identification of equipment mobilized or demobilized from the worksite. Complete IBWC Form 163-A for each piece of equipment.
5. Work performed each day, giving location, description and by whom.
6. Test and/or control activities performed with results and references to Technical Specifications/Contract Drawing requirements. The control phase shall be identified (Preparatory, Initial, Follow up). List deficiencies noted along with corrective action.
7. Quantity of materials, as appropriate, received at the site with statement as to acceptability, storage, and reference to Technical Specifications/Contract Drawing requirements. For lump sum priced line items, quantity of materials received is usually not relevant for payment of items; however, the CQC shall still make notes of items received, acceptability, storage, etc.
   a. Include copies of all delivery tickets, batch tickets, load manifests, etc. received with delivery of all materials whether they are for lump sum or unit price line items, for temporary or permanent construction, or for items not specified in these Technical Specifications.
8. Offsite surveillance activities, including actions taken.
9. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
10. Instructions given/received and conflicts in Contract Drawings and/or Technical Specifications.
11. Contractor's verification statement.
12. Water use per Section 01.51.00 Paragraph 1.10.G.1.
13. Erosion per Section 01.57.19 Paragraph 1.8.G.1.

1.14.B. Records shall indicate a description of trades working on the project, the number of personnel working, weather conditions encountered, and any delays encountered. These records shall cover both conforming

and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract.

1.14.C. IBWC Form 163, Contractor's Daily Quality Control Report, shall be used to document this data.

1. The report number shall be that of the Contract Day. The day that the NTP is issued is day zero. Each day thereafter is counted whether the Contractor works that day or not.
   a. If the report is for a single day, the report number is simply the Contract Day number.
   b. If the report is for a period of no work, the report number shall span the days covered. For example, a week of no work could have a report number of 144-150.
2. At a minimum, 1 report shall be prepared and submitted for every 7 calendar days of no work and on the last day of a no work period. The first report following a day of no work shall be for that day only. Days of work and no work cannot be combined on a report.
3. All calendar days shall be accounted for throughout the life of the Contract.
4. A pdf copy of Form 163 shall be emailed to the COR daily within 12 hours after the date(s) covered by the report, except that reports need not be emailed on calendar days on which no work is performed.

1.14.D. IBWC Form 163 shall be signed and dated by the CQC System Manager. The report from the CQCSM shall include separate attachments of test reports and copies of reports prepared by all subordinate quality control personnel.

1.14.E. IBWC Form 150 shall be used to track punch list items and deficiencies. Only deficiencies that have not been adequately addressed shall be added to Form 150 by the CO or COR.

1.15. NOTIFICATION OF NONCOMPLIANCE

The Government will notify the Contractor of any detected noncompliance with the Contract requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. Any required corrective action shall be at the Contractor's expense.

PART 2 - EXECUTION

2.1. DAILY REPORTS AND ATTACHMENTS

2.1.A. Daily reports, test reports, IBWC forms, delivery/batch tickets, inspections, minutes, etc. shall all be submitted in separate electronic files. Photos, with descriptions, are considered part of the daily report and shall not be provided in a separate file.

1. When multiple delivery/batch tickets are provided for a single day, ensure that tickets are in sequential order within the document.
2. All daily reports and attachments, except for photos and videos, shall be provided as pdf documents.
3. See Section 00.70.00 for requirements of pdf documents submitted to USIBWC.

2.1.B. The file names for the electronic files shall always start with the Contract Day number and shall also contain a brief description as well as the calendar date.

1. Use consistent naming for like documents. Once the filename for a specific report/etc. has been established, do not change it.
2. Use short but descriptive names for each file type. Recommended filename terms include:
   a. 065 DR Contractor Name 191BWCxxCxxxx 12-13-2026.pdf for daily reports
   b. 065 DFT Tests 191BWCxxCxxxx 12-13-2026.pdf for paint thickness tests.
   c. 065 Safety 191BWCxxCxxxx 12-13-2026.pdf for safety inspections or daily safety report
   d. 065 SWPP 191BWCxxCxxxx 12-13-2026.pdf for stormwater inspections

2.1.C. All dates within the project documentation and in the filenames shall have years shown with four digits.

2.2. CONTROL OF INSTALLATION

2.2.A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

2.2.B. Comply with manufacturers' instructions, including each step in sequence.

2.2.C. Should manufacturers' instructions conflict with Contract documents, request clarification from COR before proceeding.

2.2.D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

2.2.E. Have work performed by persons qualified to produce required and specified quality.

2.2.F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

2.2.G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

2.3. TOLERANCES

2.3.A. Monitor fabrication and installation tolerance control of products to produce acceptable work.

2.3.B. Do not permit tolerances to accumulate.

2.3.C. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract documents, the more stringent shall apply.

2.3.D. Adjust products to appropriate dimensions; position before securing products in place.

2.4. DEFECT ASSESSMENT

Replace work or portions of the work not conforming to specified requirements.

--End of Section--

SECTION 01.51.00
TEMPORARY UTILITIES

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. Record Documents 2
1.6. Measurement and Payment 2
1.7. Government Furnished Utilities 2
1.8. Temporary Electricity 2
1.9. Temporary Lighting 2
1.10. Temporary Water 3
1.11. Temporary Fire Protection 4
Part 2 - Products 4
2.1. Materials For Temporary Lighting 4
2.2. Materials for Temporary Water 5
Part 3 - Execution 5
3.1. Requirements For Temporary Electricity 5
3.2. Requirements For Temporary Lighting 5
3.3. Requirements For Temporary Water 6
--End of Section-- 6

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.35.23-Safety

1.3. REFERENCE STANDARDS

1.3.A. Code of Federal Regulations (CFR) / Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1910, Occupational Safety and Health Standards
2. 29 CFR 1926, Construction Standards

1.3.B. National Fire Protection Association (NFPA)

1. NFPA 10-2022 Standard for Portable Fire Extinguishers, including Errata through 10-22-1
2. NFPA 30A-2024 Code for Motor Fuel Dispensing Facilities and Repair Garages
3. NFPA 51B-2024 Standard for Fire Prevention During Welding, Cutting and Other Hot Work
4. NFPA 70-2023 Standard for Electrical Safety in the Workplace (also known as the National Electrical Code [NEC]), including Errata through 70-23-8 and TIA through 23-16
5. NFPA 241-2022 Standard for Safeguarding Construction, Alteration and Demolition Operations, including Errata 241-22-1

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Construction Water Source

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. Daily meter readings from water source.

1.6. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.7. GOVERNMENT FURNISHED UTILITIES

The Government will not be furnishing any utilities for this project including, but not limited to: potable and non-potable water, electricity, telephone, sewer, and natural gas.

1.8. TEMPORARY ELECTRICITY

1.8.A. Temporary service shall be obtained by the Contractor at their expense from the local electric provider, or by generator. The location of existing utility owner's facilities shall be researched by the Contractor. The location of the temporary power facilities shall be determined by the Contractor and approved by the local electric provider and compliance confirmed by the COR.

1. The Contractor shall furnish and install onsite power generators and/or engine driven equipment as required to supplement power available from the utility owner for the Contractor's construction activities.
2. The Contractor shall coordinate with the local electric provider for number of services required to provide power to all trades and subcontractors throughout the course of the project.
3. All costs, including permitting and charges for power consumed shall be assumed by the Contractor.

1.8.B. Service shall be provided and maintained so that power can be secured at any desired point with no more than a 50-foot extension cord.

1.8.C. Provide each outlet with circuit breaker protection and comply with ground fault protective requirements of NEC Part 210-8.

1.8.D. The temporary service and temporary site distribution shall conform to applicable provisions of NEC (National Electrical Code, NFPA 70), OSHA, and all other applicable codes, including utility service regulations.

1.8.E. Provide continuous power for the Contractor's construction site office up to 24 hours per day, 7 days per week.

1.8.F. Provide power for testing and checking equipment, if required.

1.9. TEMPORARY LIGHTING

1.9.A. Definitions
The following definitions apply:

1. Work Lighting
That lighting required to provide adequate illumination for work being performed.

2. Safety Lighting
   That lighting required to provide:
   a. Adequate illumination for safe movement of authorized persons throughout Project.
   b. Adequate illumination for public safety.
   c. Special warning lighting for hazardous conditions.
3. Security Lighting
   That lighting required in protection of project from unauthorized entry.

1.9.B. Furnish and install temporary lighting which is required for:

1. Construction needs.
2. Safe and adequate working conditions throughout project.
3. Public safety.
4. Security lighting.
5. Lighting for temporary office, storage, and construction buildings.
6. Provide work lighting from 15 minutes prior to 15 minutes past scheduled work hours on scheduled work days.
7. Provide safety lighting at all times when authorized personnel are present.

1.9.C. Maintain strict supervision of use of temporary lighting. Enforce conformance with applicable standards and safe practices and prevent abuse of services.

1.9.D. Costs of Installation and Operation
The Contractor shall pay all costs for temporary lighting, including costs of installation, maintenance, and removal and shall provide all lamps and replacements.

1.9.E. Requirements of Regulatory Agencies
The Contractor shall comply with NEC, Federal, state, and local codes, and utility service company regulations.

1.10. TEMPORARY WATER

1.10.A. The Contractor shall provide construction water as required for project throughout construction period.

1.10.B. The Contractor is responsible for source of water, as well as determining quantity of water required and availability of water.

1.10.C. The Contractor shall provide water for Contractor's field offices, cleaning, dust control, and general construction requirements.

1.10.D. The Contractor shall maintain adequate volume of water for all purposes and attain approval of the local governing entity, water district, municipality, or owner of the utility for amount of water and locations of connections that may be required. Provide a copy of the use agreement with the entity providing the water.

1.10.E. The Contractor shall provide potable water meeting the requirements of all state and federal regulations. Bottled water may be used for potable water.

1.10.F. The water required shall not come from the Rio Grande or Amistad Reservoir and must adhere to state water law.

1.10.G. The water required for construction shall be provided from a Government compliance confirmed and metered source.

1. The Contractor shall submit weekly reports to the COR showing meter readings by day and total water used by week.

1.10.H. The Contractor shall maintain strict supervision of use of temporary services:

1. Enforce conformance with applicable codes and standards.
2. Enforce sanitary practices.
3. Prevent abuse of services.
4. Prevent wasteful use of water.
5. Protect system from freezing.

1.11. TEMPORARY FIRE PROTECTION

1.11.A. The Contractor shall conform to the fire protection and prevention requirements specified herein as well as those which may be established by Federal, state, or local governmental agencies.

1.11.B. The Contractor shall comply with all applicable provisions of NFPA Standard No. 241, Safeguarding Construction, Alteration and Demolition Operations. NFPA 51B Standard for Fire Prevention During Welding, Cutting and Other Hot work shall also be adhered to for all work.

1.11.C. Facilities specified herein shall be provided by the Contractor, but the Contractor is responsible for assuring that all subcontractors also conform to the provisions of this Section and all applicable laws, ordinances, rules, and regulations.

1.11.D. The Contractor shall provide portable fire extinguishers, rated not less than 2A or 5B in accordance with NFPA Standard No. 10, Portable Fire Extinguishers, for each temporary building, field office, vehicle, or piece of equipment.

1. See Section 01.35.23 2.1. for additional information on fire extinguishers.

1.11.E. The Contractor shall locate portable fire extinguishers 50 feet maximum from any point in the protection area.

1.11.F. The Contractor shall prohibit smoking in hazardous areas. Post suitable warning signs in areas which are continuously or intermittently hazardous.

1.11.G. The Contractor shall use metal safety containers for storage and handling of flammable and combustible liquids. The requirements of NFPA 30A Code for Motor Fuel Dispensing Facilities and Repair Garages shall be followed for construction fueling areas.

1.11.H. The Contractor shall maintain clear exits from all points of the work.

1.11.I. The Contractor shall pay all costs for temporary fire protection including installation, inspection, maintenance, and removal of any required systems or items.

PART 2 - PRODUCTS

2.1. MATERIALS FOR TEMPORARY LIGHTING

2.1.A. Materials and equipment may be new or used, but must be adequate for purposes intended and must not create unsafe conditions or violate requirements of applicable codes.

2.1.B. The Contractor shall provide all required facilities, including wiring, switches, accessories, and supports.

2.1.C. The Contractor shall provide standard products, meeting UL "Listed" requirements.

2.1.D. The Contractor shall provide heavy-duty guards on fixtures.

2.1.E. The Contractor shall provide appropriate types of fixtures for environment in which used, in accordance with NEC standards.

2.2. MATERIALS FOR TEMPORARY WATER

2.2.A. Materials may be new or used, but must be adequate for purpose required, must be sanitary, and must not violate requirements of applicable codes.

2.2.B. The Contractor shall provide all required facilities, including piping, valves, pumps, pressure regulators, tanks, and other appurtenances.

2.2.C. Source

1. The water required for all construction activities shall be provided from a USIBWC compliance confirmed and metered municipal source.

Water from the Rio Grande or Amistad Reservoir shall not be used by the Contractor at any time.

PART 3 - EXECUTION

3.1. REQUIREMENTS FOR TEMPORARY ELECTRICITY

3.1.A. Installation

1. Install temporary work in a neat orderly manner and make structurally and electrically sound throughout.
2. Maintain installation throughout construction period to give continuous service and to provide safe working conditions.
3. Modify service and rearrange wiring as work progress requires.
4. Locate all facilities to avoid interference with hoisting, materials handling, storage, traffic areas, existing operable facilities, and work under other Contracts.

3.1.B. Removal

Completely remove temporary materials and equipment after permanent installation is in use. Repair damage caused by the temporary service or its removal and restore to specified or original condition.

3.2. REQUIREMENTS FOR TEMPORARY LIGHTING

3.2.A. Installation

1. Install temporary work in neat and orderly manner and make structurally and electrically sound throughout.
2. Maintain throughout construction period to give continuous service and to provide safe working conditions.
3. Modify and extend lighting as work progress requires.
4. Locate to avoid interference with or hazards to:
   a. Work or movement of personnel.
   b. Traffic areas.
   c. Materials handling.
   d. Storage areas.
5. Direct all temporary lighting at the work area in such a manner that fugitive light is not directed at Border Patrol operations or nearby roads.

3.2.B. Removal

Completely remove temporary materials and equipment, after project is complete. Repair damage caused by temporary service and restore surfaces to specified or original condition.

3.3. REQUIREMENTS FOR TEMPORARY WATER

3.3.A. Installation

1. Install work in a neat and orderly manner and make structurally and mechanically sound throughout.
2. Maintain to provide continuous service.
3. Modify and extend service as work progress requires.
4. Locate piping and outlets to provide service convenient to work stations and to avoid interference with traffic and work areas, materials handling equipment, and storage areas.
5. Provide insulation, or other means as required, to prevent pipes from freezing.
6. When necessary to maintain pressure, provide temporary pumps, tanks, and compressors.

3.3.B. Removal

Completely remove temporary materials and equipment upon completion of construction. Clean and repair damage caused by installation and restore to specified or original condition.

--End of Section--

SECTION 01.52.13
FIELD OFFICES AND SHEDS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Submittals 1
1.4. Measurement and Payment 1
1.5. Use of Government Land 1
1.6. Contractor's Field Office and Sheds 2
1.7. Staging Areas 2
Part 2 - Products (Not Used) 3
Part 3 - Execution (Not Used) 3
--End of Section-- 3

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.57.00-Temporary Controls for Work Areas

1.3. SUBMITTALS

1.3.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.3.B. Required submittals in this Section include:

1. Staging Area
   a. ANSI B (11"x17") plan showing the location of any proposed staging or storage area 15 calendar days prior to the use of such area.
   b. Copies of any permits, stormwater plans, surveys, etc. related to staging and storage areas shall be provided to the COR.

1.4. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.5. USE OF GOVERNMENT LAND

1.5.A. The Contractor's construction facilities shall be arranged and operated in a manner to preserve and protect existing features, trees, and vegetation to the maximum extent practicable. The location, construction, operation, maintenance, and removal of construction facilities on Government land shall be subject to the approval of the COR.

1.5.B. USIBWC land is available for use for the Contractor's field office and/or sheds.

1. The Contractor may choose to have an offsite field office.

1.5.C. Housing for Contractor personnel will not be permitted on Government land.

1.5.D. Upon completion of the work, and following removal of construction facilities and required cleanup, Government land used for construction purposes and not required for the completed installation shall be returned to preconstruction conditions.

1.6. CONTRACTOR'S FIELD OFFICE AND SHEDS

1.6.A. The Contractor shall provide a Contractor's field office, if necessary, as well as required storage and work sheds.

1.6.B. Unless otherwise allowed by the COR, the Contractor's field office shall be approximately within ½ mile of the project site.

1.6.C. The Contractor shall provide one set of all Contract documents in the field office for ready reference at all times by interested parties.

1.6.D. Field Office and Furnishings:

1. Furnishings as required by the Contractor.
2. Telephone service and electrical power.
3. Light and temperature as determined adequate by Contractor.
4. Exterior identifying sign.

1.6.E. The Contractor shall remove the field office and other facilities upon Final Acceptance unless otherwise compliance confirmed by the COR.

1.6.F. The Contractor is responsible for all security related to maintenance, use, and storage of the field office.

1.6.G. The Contractor shall pay for all permits that may be required in establishing their field office and all PSLs.

1.7. STAGING AREAS

1.7.A. The specific location of the staging area is subject to compliance confirmed by COR. Additionally, the Contractor shall submit an ANSI B (11"x17") plan showing the location of any proposed staging or storage area 15 calendar days prior to the use of such area, indicating the size of the area and the proposed method of fencing the area.

1. A similar submittal is required 15 calendar days prior to the change of location or expansion of size of any staging or storage area.
2. The Contractor shall leave the staging area in preconstruction conditions or better.

1.7.B. The Contractor shall ensure that staging areas, parking areas, and all other PSLs are protected from hydrocarbon spills.

1.7.C. The Contractor is responsible for all permits, stormwater plans, environmental surveys, or other items required for their staging or storage areas. It is the Contractor's responsibility to check with the local regulatory bodies to ensure that all regulations and requirements are met.

1. Contractor shall ensure that requirements of Section 01.57.00 are met for all staging and storage areas.
2. Copies of any permits, stormwater plans, surveys, etc. related to staging and storage areas shall be provided to the COR.

1.7.D. Contractor is responsible for all security related to maintenance, use, and storage at their staging area.

PART 2 - PRODUCTS
(Not Used)

PART 3 - EXECUTION
(Not Used)

--End of Section--

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SECTION 01.55.26
TRAFFIC CONTROL AND PROJECT SIGNAGE

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. Measurement and Payment 2
1.6. General 2
1.7. Project and Safety Signs 2
1.8. Traffic Control Plan 3
1.9. Flaggers 3
Part 2 - Products 3
2.1. Traffic Control Signs 3
2.2. Flagger Apparel and Devices 3
2.3. Other Project Signs 3
Part 3 - Execution 4
3.1. Implementation 4
3.2. Flaggers 4
3.3. Barricades and Sign Supports 4
3.4. Maintenance 4
3.5. Removal 4
--End of Section-- 4

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.11.00-Summary of Work

1.2.B. Section 01.33.00-Submittal Procedures

1.2.C. Section 01.35.23-Safety

1.3. REFERENCE STANDARDS

1.3.A. Code of Federal Regulations (CFR) / Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1926, Construction Standards

1.3.B. Federal Highway Administration (FHWA)

1. Manual of Uniform Traffic Control Devices (MUTCD), 11th Edition, December 2023
   mutcd.fhwa.dot.gov/kno_11th_Edition.htm
2. Standard Highway Signs, 2004 Edition with 2012 Supplement
   mutcd.fhwa.dot.gov/ser-shs_millennium.htm

Texas Department of Transportation (TxDOT)

1. TxDOT 2011 Manual of Uniform Traffic Control Devices (TMUTCD), Revision 2
   ftp.dot.state.tx.us/pub/txdot-info/trf/tmutcd/2011-rev-2/back-to-back.pdf

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Traffic Control Plan
   The Contractor shall furnish for review by the Government, not later than 3 weeks prior to use of public roadways.
2. Designation of Contractor's Responsible Person (CRP)
   Contractor shall designate in writing a Contractor's Responsible Person (CRP) who is responsible for taking or directing corrective measures of installation and maintenance of barricades and signing deficiencies.
3. Flagger Certifications
   a. List of certified flaggers
   b. Copies of current flagger certifications

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL

1.6.A. The Contractor shall provide, install, move, replace, maintain, clean, and remove upon completion of work all barricades, signs, cones, lights, and /or traffic control devices as directed or required.

1.6.B. A traffic control plan is required for all lane and/or road closures and shall be submitted for review to assure conformance with the Contract Specifications.

1.6.C. If crane setup or work requires full closure of dam crest road, this closure shall be coordinated with COR and the Amistad Dam Field Office. USIBWC will require at least 30 days to coordinate closures greater than 1 week and at least 14-day notice for all closures less than 1 week.

1.7. PROJECT AND SAFETY SIGNS

1.7.A. All project entry points shall have signs stating, "Construction Area-Keep Out" and warning signs requiring PPE. PPE sign may state "Hard Hats Required" or may specify "Hard Hats, Steel Toe Boots, and Eye Protection Required" as applicable based upon Contractor's APP.

1. The Contractor may delineate an area within this work zone as a "hard hat free zone." Usually such areas are used for private parking areas or lunch areas.
2. Hard hat free zones must be clearly identified and cannot be within any area of ongoing construction.

1.7.B. Ensure that signs are consistent with APP in Section 01.35.23.

1.7.C. Provide required and appropriate safety signs and barricades.

1.7.D. Provide temporary fencing and/or barricades to keep pedestrians out of the work areas.

1.7.E. Provide temporary fencing and/or barricades to keep equipment and workers away from pedestrians.

1.7.F. Site access restrictions are detailed in Section 01.11.00 3.4.

1.8. TRAFFIC CONTROL PLAN

1.8.A. The Contractor is responsible for developing a traffic control plan (TCP), haul routes, as well as a barricade and signing plan, for all work within or adjacent to public street/road right-of-way, including ingress/egress points to such right-of-way.

1. TCPs are not required on USIBWC property.

1.8.B. The Contractor shall use TxDOT best practices, method of constructions, safety guidelines, and state policies during construction.

1.8.C. The Contractor's representative shall coordinate with all local, county, and state governing agencies for obtaining permits for these TCPs and coordinate with the local governing body for all detours and/or road closures on public highways and roads.

1.8.D. All permits required shall be paid for by the Contractor.

1.8.E. The TCP shall be signed and sealed by the Contractor's Engineer which is to be a licensed engineer in the state where the plan will be implemented.

1.8.F. The TCP shall be submitted to the COR for compliance confirmation prior to commencement of any construction activities and after TCP approval by the local governing body.

1.9. FLAGGERS

1.9.A. All flaggers must be qualified to perform flagging duties.

TxDOT approved flagger training providers are shown at https://ftp.dot.state.tx.us/pub/txdot-info/cmd/mpl/tct.pdf.

1.9.B. Provide the COR with a current list of qualified flaggers before beginning flagging activities.

1.9.C. Flaggers must be courteous and able to effectively communicate with the public.

PART 2 - PRODUCTS

2.1. TRAFFIC CONTROL SIGNS

The Contractor shall fabricate and use barricading and signing in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), TxDOT, and FHWA Standard Highway Signs.

2.2. FLAGGER APPAREL AND DEVICES

2.2.A. Flaggers shall wear high visibility apparel meeting MUTCD 6E.02.

1. Ensure that apparel is consistent with APP in Section 01.35.23.

2.2.B. Hand-signaling devices shall meet MUTCD 6E.03.

1. The STOP/SLOW paddle is the primary and preferred hand-signaling device.
2. Use of red flags is limited to emergency situations.

2.3. OTHER PROJECT SIGNS

2.3.A. Project signs not related to traffic control and safety barricades shall be of the size, color, and shape applicable for their application.

2.3.B. All signs used for pedestrians, including bicyclists, shall meet MUTCD, but upon COR approval may be of smaller sizes.

2.3.C. Signs related to safety situations shall meet associated OSHA requirements.

2.3.D. In almost all situations, handwritten signs are not allowed.

PART 3 - EXECUTION

3.1. IMPLEMENTATION

3.1.A. Before beginning work, designate in writing a Contractor's Responsible Person (CRP) to be the representative of the Contractor who is responsible for taking or directing corrective measures of installation and maintenance of barricades and signing deficiencies as soon as possible. The CRP must be accessible by phone and able to respond to emergencies 24 hours per day.

3.1.B. The Contractor shall install devices straight and plumb. Do not make changes to the location of any device or implement any other changes without the compliance confirmation of the Government. Minor adjustments to meet field constructability and visibility are allowed.

3.2. FLAGGERS

3.2.A. Use only flaggers on the compliance confirmed, qualified list.

3.2.B. When directing traffic, flaggers must use standard attire, flags, signs, and signals and follow the flagging procedures set forth in the TxDOT or MUTCD guidance, as applicable.

3.3. BARRICADES AND SIGN SUPPORTS

3.3.A. Adequate support for the project signing and barricades, including positioning and alignment, shall be provided by the Contractor.

3.3.B. The Contractor shall implement an inspection schedule to ensure that all required and necessary signs are in the correct position and alignment. This schedule may vary based upon weather conditions or time of year.

3.4. MAINTENANCE

3.4.A. The Contractor shall maintain devices including, but not limited to barricades, concrete traffic barrier, and signing, by taking corrective action as soon as possible.

3.4.B. Corrective action includes but is not limited to cleaning, replacing, straightening, covering, or removing devices.

3.4.C. The Contractor shall maintain the devices such that they are properly positioned, spaced, and legible and that retro-reflective characteristics meet requirements during darkness and rain.

3.4.D. Traffic control signs such as flaggers ahead, truck turning, etc. shall be covered, turned, or removed when signed activities are not currently being conducted.

3.5. REMOVAL

Upon completion of work, the Contractor shall remove all barricades, concrete traffic barrier, signs, cones, lights, and/or traffic control devices used for work-zone, unless otherwise shown on the Contract Drawings.

--End of Section--

SECTION 01.57.00
TEMPORARY CONTROLS FOR WORK AREAS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 1
1.5. Measurement and Payment 2
1.6. General 2
1.7. Work Area / Project-Specific Location Requirements 2
1.8. Access to the Work 3
1.9. Agreements and Temporary Easements 3
Part 2 - Products (Not Used) 4
Part 3 - Execution 4
3.1. General 4
3.2. Staging Areas, Field Office, and Other PSLs 4
--End of Section-- 4

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.31.24-Environmental Information

1.2.B. Section 00.31.43-Permit Application

1.2.C. Section 01.33.00-Submittal Procedures

1.2.D. Section 01.52.13-Field Offices and Sheds

1.2.E. Section 02.01.00-Existing Conditions and Facilities

1.3. REFERENCE STANDARDS

1.3.A. Texas Commission on Environmental Quality (TCEQ)

1. Texas Pollutant Discharge Elimination System (TPDES)
2. TPDES 2018 Construction General Permit TXR150000 dated January 28, 2022

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Contractor documentation on certification decisions, contacts, and correspondence with the resource agencies for all Project Specific Locations (PSL).
2. The Contractor shall submit to the Government copies of the Stormwater Pollution Prevention Plan (SWPPP), agreements/temporary easements, and other applicable documentation for all staging areas, storage areas, and offices utilized on this project.

3. The Contractor shall submit to the Government copies of landowner agreements or other temporary easements obtained to facilitate construction operations per Section 01.11.00 Paragraph 3.2.B.
4. At the end of construction or use of the non-USIBWC property, provide proof of compliance with all natural, cultural, and environmental regulations for use of any site. Proof of compliance can be documentation from the city/county/state oversight board or a release of all claims from the property owner.

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL

The Contractor shall obtain written compliance confirmation from the Government for all PSLs in the right of way not specifically addressed in the Contract Drawings.

1.7. WORK AREA / PROJECT-SPECIFIC LOCATION REQUIREMENTS

1.7.A. The Contractor shall limit all construction activities to areas within the project limits and other project specific locations (PSLs). PSLs include, but are not limited to, borrow pits, material sources, waste sites, parking areas, stockpiles, storage areas, field offices, staging areas, haul roads, etc. both on and off the ROW. Most PSLs are located on private or non-USIBWC property.

1. The Contractor's field office, stockpile, staging area, and haul route locations shall be compliance confirmed by the Government prior to the start of construction.
2. See Section 01.52.13 for details on use of USIBWC property for offices, storage, and/or staging areas.
3. The Government will not be specifying or providing a borrow pit location on or off Government right of way. It is the Contractor's responsibility to obtain fill material that meets the fill material requirements of these Technical Specifications.

1.7.B. The Contractor shall provide for protection of the existing right-of-way and existing facilities.

1.7.C. Signing the Contract certifies compliance with all applicable laws, rules, and regulations pertaining to the preservation of natural and cultural resources and the environment as issued by the following or other agencies:

1. Occupational Safety and Health Administration (OSHA)
2. US Environmental Protection Agency (EPA)
3. Federal Highway Administration (FHWA)
4. US Fish and Wildlife Service (FWS)
5. US Army Corps of Engineers (USACE)
6. US Department of Energy (DOE)
7. US Department of Transportation (DOT)
8. US Federal Emergency Management Agency (FEMA)

Texas Commission on Environmental Quality (TCEQ)

10. Texas Water Commission
11. Texas Department of Transportation (TxDOT)
12. Texas Historical Commission (THC)
13. Texas Parks and Wildlife Department (TPWD)
14. Texas Railroad Commission

15. Val Verde County, Texas
16. USIBWC Environmental Documents List in Section 00.31.24.

1.7.D. PSLs shall not impact wetlands, natural resources, nor cultural resources.

1.7.E. All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract.

1.7.F. The Contractor shall maintain documentation of certification activities including environmental consultant reports, Contractor documentation on certification decisions, contacts, and correspondence with the resource agencies.

1. The Contractor shall provide said documentation to the Government for all PSLs.
2. The Contractor shall provide the Government with proof of compliance with all natural, cultural, and environmental regulations for use of any site. Proof of compliance can be documentation from the city/county/state oversight board or a release of all claims from the property owner.

1.7.G. The Contractor shall obtain written compliance confirmation from the Government for all PSLs in the right of way not specifically addressed in the Contract Drawings.

1. The Contractor shall address requirements for stormwater pollution prevention for all Contractor facilities located within the right of way.
2. The Contractor shall comply with all permit requirements for portable facilities, such as concrete batch plants, rock crushers, asphalt plants, etc.
3. The Contractor shall address all environmental issues, such as Section 404 permits, EIS, ROD, EA, FONSI, wetland delineation, endangered species consultation requirements, or archaeological and historic site impacts.

1.8. ACCESS TO THE WORK

1.8.A. The Contractor shall use existing roads to access project limits and associated PSLs subject to the following conditions:

1. The Contractor shall be responsible for, and repair, any damage to roadways used by the Contractor, subcontractors, and/or vendors in performing the work under this Contract.
2. The Contractor shall meet all conditions imposed upon the use of existing roads by those having jurisdiction thereof, including seasonal, weight limits, and/or other limitations or restrictions.
3. The Contractor shall ensure that the hauling of sand, gravel, earth material, or other hauling, over public highways, roads, or bridges is in compliance with the applicable local regulations and shall be such as to minimize interference with or congestion of local traffic.

1.8.B. Under flood conditions or other extreme weather events, full access to the jobsite may not be available. The Contractor shall make accommodations for less than full access in their Flood Protection Plan (Section 02.01.00).

1.9. AGREEMENTS AND TEMPORARY EASEMENTS

1.9.A. Agreements and temporary easements for PSLs and for Contractor access to property to facilitate construction off USIBWC's ROW shall reference the Contract number and project title.

1.9.B. Agreements and temporary easements shall include permission for Government access to conduct appropriate inspections.

1.9.C. Dollar amounts on these documents may be blacked out when copies are provided to Government.

1.9.D. See Section 01.11.00 Paragraph 3.2 for areas accessible to Contractor without agreements or temporary easements.

PART 2 - PRODUCTS
(Not Used)

PART 3 - EXECUTION

3.1. GENERAL

3.1.A. All SWPPPs associated with this project shall be signed, sealed, and dated by a registered professional engineer and shall be available for review during the duration of construction activities.

3.1.B. A general SWPPP covering all work areas is not permitted; each PSL must be addressed separately.

1. If acceptable to the COR, PSLs sharing common ownership may be covered under a single SWPPP.

3.2. STAGING AREAS, FIELD OFFICE, AND OTHER PSLS
The Contractor shall submit to the Government copies of the Stormwater Pollution Prevention Plan (SWPPP), landowner agreement, and other applicable documentation for all PSLs utilized on this project.

--End of Section--

SECTION 01.57.19
TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. Record Documents 2
1.6. Measurement and Payment 2
1.7. General 2
1.8. Water Pollution 3
1.9. Air Pollution 3
1.10. Dust Abatement 3
1.11. Noise Pollution 4
1.12. Light Abatement 4
1.13. Pesticides 4
1.14. Erosion Protection 5
1.15. Paint and Solvent Control 5
1.16. Oils 5
1.17. Preservation of Historical and Archaeological Data 7
1.18. Migratory Birds 8
1.19. Noxious Weeds 8
Part 2 - Products (Not Used) 9
Part 3 - Execution 9
3.1. Contractor's Responsibilities 9
3.2. Controls 11
3.3. Environmental Commitments 11
--End of Section-- 12

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.31.24-Environmental Information

1.2.B. Section 00.31.43-Permit Application

1.2.C. Section 01.33.00-Submittal Procedures

1.2.D. Section 01.57.00-Temporary Controls for Work Areas

1.2.E. Section 01.74.19-Construction Waste Management and Disposal

1.2.F. Section 02.01.00-Existing Conditions and Facilities

1.3. REFERENCE STANDARDS

Code of Federal Regulations (CFR)

1. 22 CFR 1104, International Boundary and Water Commission, Protection of Archaeological Resources
2. 29 CFR 1910, Occupational Safety and Health Standards (OSHA)

3. 36 CFR 800, Protection of Historic Properties (NHPA)

Texas Commission on Environmental Quality (TCEQ)

1. Texas Pollutant Discharge Elimination System (TPDES)
2. TPDES 2018 Construction General Permit TXR150000 dated January 28, 2022

1.3.C. United States Code (USC)

1. Archaeological Resources Protection Act (ARPA), 16 USC Chapter 1B
2. Clean Water Act (CWA), 33 USC 1251 et seq.
3. Endangered Species Act (ESA), 16 USC 1531 et seq.
4. Federal Environmental Pesticide Control Act, 7 USC Chapter 6
5. Migratory Bird Treaty Act (MBTA), 16 USC 703-712
6. National Environmental Policy Act (NEPA), 42 USC 4321-4347
7. National Historic Preservation Act (NHPA), 54 USC 300101 et seq.
8. Native American Graves Protection and Repatriation Act (NAGPRA), 25 USC 3001 et. seq.

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Stormwater Pollution Prevention Plan(s)
   a. A compliance confirmed SWPPP for the worksite is required prior to Contractor mobilization.
   b. Spill Prevention, Control, and Countermeasure (SPCC) Plan, if required.
   c. Copies of NOI, NOT, and any applicable waivers shall be provided to COR upon receipt.
2. Pesticide Use Plan, if required.
3. Hydrocarbon Storage Tank Permits

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. SWPPP Inspections
2. SWPPP Modification Logs
3. SWPPP Rainfall Logs
4. SWPPP Corrective Action Forms

1.6. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.7. GENERAL

1.7.A. The Contractor shall provide and maintain methods, equipment, and temporary construction as necessary to provide controls over environmental conditions in the construction areas, adjacent areas, temporary work areas and all Project Specific Locations (PSL) and shall remove physical evidence of the temporary facilities at the completion of work.

1.7.B. The Contractor shall, at their own expense, obtain all required permits for environmental controls unless otherwise specified.

1.7.C. Contractors shall be responsible for knowing about applicable environmental laws and regulations.

1.8. WATER POLLUTION

1.8.A. The Contractor's construction activities shall be performed by methods that will prevent entrance, or accidental spillage, of solid matter, contaminants, debris, or other pollutants or wastes into the Rio Grande or Amistad Reservoir or associated watersheds of the project limits.

1.8.B. All discharges into "waters of the United States" shall meet the requirements of the Clean Water Act (CWA).

1.8.C. The Contractor shall meet all requirements of the TCEQ Pollutant Discharge Elimination System requirements for discharges associated with construction activities including but not limited to preparation of a stormwater pollution prevention and monitoring plan (SWPPP).

1.8.D. The Contractor shall meet all the requirements of their SWPPP during construction activities.

1.8.E. The Contractor shall provide contained traps to washout concrete trucks. All material washed out of any concrete truck shall be contained in the trap. All concrete waste collected in the trap shall be properly disposed of per Section 01.74.19.

1.8.F. The Contractor shall provide secondary containment systems capable of containing twice the volume of the storage tank as well as appropriate spill cleanup materials onsite for any material that is toxic or is harmful to flora, fauna, or the environment.

1.8.G. The Contractor shall periodically inspect earthwork for any evidence of erosion starting. If such evidence is found, the Contractor shall apply corrective measures, as required, to control erosion.

1. Inspections for erosion shall be noted in the Contactor's daily QC report.

1.9. AIR POLLUTION

1.9.A. The Contractor shall comply with applicable Federal, state, and local laws and regulations and with the requirements of these Contract documents concerning the prevention and control of air pollution and for pollutant emissions from all vehicles and equipment onsite. Should a conflict exist in the requirements for abatement of air pollution, the most stringent requirement shall apply. The Contractor shall utilize such methods and devices available to prevent, control and otherwise minimize atmospheric emissions or discharges of air contaminants including dust.

1.9.B. The Contractor shall not operate equipment and vehicles that show excessive emissions of exhaust gases until corrective repairs or adjustments reduce such emissions to acceptable levels.

1.10. DUST ABATEMENT

1.10.A. The Contractor shall, during the performance of the work required by these Contract documents, or any operations appurtenant thereto and whether within the construction limits of this project or elsewhere, comply with applicable Federal, state, and local laws and regulations regarding the prevention, control and abatement of dust pollution. Should a conflict exist in the requirements for dust abatement, the most stringent requirement shall apply.

1.10.B. The Contractor shall be responsible for controlling objectionable dust caused by the operation of vehicles and equipment, clearing, or for any reason whatever. The Contractor shall control dust at all times, including Saturdays, Sundays, and holidays, during both working and nonworking hours.

1.10.C. The Government has the authority to stop any construction activity contributing to dust levels which are excessive or are in violation of Federal, state, or local laws. Dust control measures shall be maintained at all times to the satisfaction of the COR, in accordance with the requirements of the Government.

1.10.D. All costs resulting from such work stoppage shall be the responsibility of the Contractor and Contract time extensions will not be provided.

1.10.E. The Contractor shall reference dust control requirements in their SWPPP.

1.11. NOISE POLLUTION

1.11.A. The Contractor shall minimize noise throughout all phases of the Contract and exercise particular and special efforts to avoid the creation of unnecessary noise impact on adjacent noise sensitive receptors in the placement of non-mobile equipment such as air compressors, generators, pumps, etc. Place mobile and stationary equipment to cause the least disruption of normal adjacent activities.

1.11.B. The Contractor shall comply with the applicable Federal, state, and local laws and regulations, regarding the prevention, control, and abatement of harmful noise levels. Should a conflict exist in the requirements for noise abatement, the most stringent requirement shall apply.

1.11.C. All vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA and local agency standards.

1.11.D. All equipment associated with the work must be equipped with components to suppress excessive noise and these components must be maintained in their original operating condition considering normal depreciation. Noise attenuation devices installed by the manufacturer such as mufflers, engine covers, insulation, etc. must not be removed nor rendered ineffectual nor be permitted to remain off the equipment while the equipment is in use.

1.12. LIGHT ABATEMENT

The Contractor shall exercise special care to direct all stationary lights to shine downward at an angle less than horizontal. These lights shall also be shielded so as not to be a nuisance to surrounding areas. No lighting shall include a residence or roadway in its direct beam. The Contractor shall immediately correct lighting problems when they occur.

1.13. PESTICIDES

1.13.A. Pesticides are also known as herbicides, insecticides, fungicides, rodenticides, piscicides, avicides, sanitizers, disinfectants, animal repellants, and insect repellants. Additionally, certain plant growth regulators or hormones may also be regulated as pesticides by the Federal Environmental Pesticide Control Act (FIFRA).

1.13.B. Only those pesticides registered with EPA in compliance with the FIFRA and with State agencies may be used on the site.

1.13.C. Only pesticides noted as safe for use near lakes and aquatic environments shall be used.

1.13.D. All pesticides, except those noted in 1.13.F.1. below, used shall contain a marker dye or colorant. The dye used shall be considered non-toxic under OSHA 29 CFR 1910.1200, be safe for animals, and be safe for aquatic environments.

1.13.E. The Contractor shall provide rodent and pest control as necessary to prevent infestation of construction or storage areas, employing methods, and use materials which will not adversely affect conditions at the site or on adjoining properties.

1.13.F. Pesticide Use Plan
Prior to the use of any pesticide on within USIBWC's ROW, the Contractor shall submit a pesticides use plan.

1. A pesticide use plan is not required for insect repellant to be applied directly to clothing, or for small quantities of aerosol insecticides, such as fly and spider sprays, to be applied within or directly to offices or shop buildings.
2. For each pesticide:
   a. Identify the entity to be responsible for pesticide application.
      (1) Pesticide applicators shall be licensed in the state where pesticide will be applied

(2) Provide a copy of this license as part of the Pesticide Use Plan.

b. Provide the complete label as defined by FIFRA, as amended, containing the following:
(1) Brand, common and chemical names
(2) Ingredients and net contents
(3) Use classification and registered uses
(4) Name and address of manufacturer or registrant, EPA registration number and the establishment number
(5) Directions for use, including safety information, warnings and precautions

c. Safety Data Sheet (SDS) for pesticide

d. Safety Data Sheet for dye/colorant

1.13.G. All EPA and manufacturer requirements for storage and transport of pesticides shall be met. A spill kit appropriate for the pesticide used shall be kept nearby during mixing and application.

1.13.H. Keep records of pesticide types and amounts purchased, delivered, stored, mixed, and actually used, and disposal means of excess. Provide copies of all records to the COR as well as keeping a copy at the worksite for review.

1.14. EROSION PROTECTION

1.14.A. The Contractor shall use industry Best Management Practices (BMP) for erosion control and construction stormwater containment and permits.

1.14.B. The Contractor shall hold the areas of bare soil exposed at any time to a minimum.

1.14.C. The Contractor shall provide temporary control measures such as berms, dikes, and drains.

1.14.D. The Contractor shall apply water or use other methods subject to the COR's compliance confirmation which will keep dust in the air to a minimum.

1.15. PAINT AND SOLVENT CONTROL

The Contractor shall comply with all requirements of regulatory agencies in use, storage, application, and disposal of paints and solvents, and containers for paints and solvents. All disposals shall be at a compliance confirmed legal disposal site and Section 01.74.19.

1.16. OILS

1.16.A. Oil means oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

1. Petroleum oils include, but are not limited to, crude and refined petroleum products, asphalt, gasoline, fuel oils, mineral oils, naphtha, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

a. Asphalt is a thermoplastic material, composed of unsaturated aliphatic and aromatic compounds, that softens when heated and hardens upon cooling. Within a certain temperature range, it exhibits viscoelastic properties with viscous flow behavior and elastic deformation. All types of asphalt are petroleum oil products, and its composition depends on the source of the crude oil and the process used to manufacture it.

b. Asphalt includes asphalt cement (AC) as well as asphalt derivatives such as cutbacks and emulsions. Although AC is semi-solid or solid at ambient temperature and pressure, it is generally stored at elevated temperatures. Hot AC is liquid and therefore is capable of flowing. Cutbacks and emulsions are liquid at ambient temperature, and because of their low viscosity, they may flow when discharged onto the ground.

2. Nonpetroleum oils and greases include coal tar, creosote, silicon fluids, pine oil, turpentine, and tall oils.
3. Synthetic oils are used in a wide range of applications, including as heat transfer fluids, engine fluids, hydraulic and transmission fluids, metalworking fluids, dielectric fluids, compressor lubricants, and turbine lubricants. Synthetic oils are created by chemical synthesis rather than by refining petroleum crude or extracting oil from plant seeds.
4. Animal fat means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin.
5. Vegetable oil means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.

1.16.B. Oils shall not be stored within the 100-year floodplain.

1.16.C. All stored oils must have a secondary containment system capable of containing twice the volume of the storage tank. Appropriate spill cleanup materials must be available onsite at all times during construction.

1. Storage tanks shall have a capacity of 1,100 gallons or less or shall be properly licensed by the state where the tank is located.

1.16.D. A Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be prepared if any of the following apply:

1. Have a stored oil capacity of 1,320 gallons or more.
2. Can reasonably expect that accidental discharge of oil will reach navigable waters or adjoining shorelines in quantities that may be harmful.

1.16.E. SPCC plans shall be provided with the Contractor's SWPPP.

1.16.F. All equipment shall be cleaned (pressure washed and/or steam cleaned) of external oil, grease, dirt and mud, and all leaks repaired prior to arriving at the project site.

1. All equipment will be inspected by the CQC and the Government Inspector before unloading at site.
2. Any leaks or accumulations of grease shall be immediately corrected.
3. A written log of inspections and maintenance must be completed and maintained throughout the project period.

1.16.G. The Contractor shall maintain all of their equipment, both onsite and at all PSLs, in good working order to prevent drips and leaks.

1. Leaking equipment shall not be used.
2. Leaking equipment shall be red tagged by the Contractor, the FEM, the Inspector, or the COR. This equipment must be removed from the site until all leaks have been corrected.

1.16.H. All equipment (heavy equipment, chainsaws, ATVs, other hand power tools, etc.) shall be fueled outside of stream adjacent riparian areas, wet areas, at least 100 feet from any surface water, and at least 100 feet from the banks of the Rio Grande or Amistad Reservoir. Specific fueling areas may be approved and designated by the COR.

1.16.I. Used oils shall be disposed of by the Contractor according to Section 01.74.19.

1.16.J. Any soil contaminated by oil shall be removed from the site within 24 hours of discovery and disposed of according to Section 01.74.19.

1.17. PRESERVATION OF HISTORICAL AND ARCHAEOLOGICAL DATA

1.17.A. General

Federal legislation provides for the protection, preservation, and collection of scientific, prehistoric, historic, and archaeological data, including relics and specimens, which might otherwise be lost due to alteration of the terrain as a result of any Federal construction project.

1. Scientific data and specimens include, but are not limited to: fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest, and that provide information about the history of life on earth.

1.17.B. The Contractor and any subcontractors shall comply with state historical preservation laws (see State's Historical Preservation Office (SHPO)) when operating on non-Federal and non-Indian lands.

1.17.C. Destruction of Archaeological Resources

Any person who excavates, removes, damages, alters, or defaces or attempts to excavate, remove, damage, or otherwise alter, or deface any archaeological resource located on public lands or Indian lands is subject to a maximum of five years in prison and $250,000 fine, as prescribed under Sections 6 and 7 of the Archaeological Resources Protection Act (ARPA). State law may provide other penalties on non-Federal lands.

1.17.D. Discovery of Resources

1. Should the Contractor, or any of the Contractor's employees, or parties operating or associated with the Contractor in the performance of this Contract discover evidence of possible cultural, scientific, prehistoric, historical, or archaeological resources, the Contractor shall:
   a. Immediately cease work at that location.
   b. Immediately notify the COR orally, giving the location and nature of the findings.
   c. Follow with written confirmation to the COR within 2 days.
2. In addition to notifying the COR, when the discovery occurs on state, municipal, or private lands, notify the appropriate state officials as prescribed by state law.
3. If a cultural resource is determined by USIBWC to be a Native American cultural item, then the Contractor shall cease the activity in the area of the discovery, make a reasonable effort to protect the items discovered, and wait for written approval from the CO before resuming activity. This requirement is prescribed under the Native American Graves Protection and Repatriation Act (NAGPRA).
4. If the discovery occurs on tribal lands, the Contractor shall immediately orally notify the responsible tribal official and the COR and follow with written confirmation within 2 days to the responsible tribal official and the COR.
5. Exercise care so as not to disturb or damage cultural resources uncovered during construction activities and provide such cooperation and assistance as may be necessary to preserve the findings for removal or other disposition by the CO.
6. Do not resume work in the area of discovery until receipt of written notice to proceed from the CO.

1.17.E. Discovery of Human Remains or Native American Artifacts

1. Should the Contractor, or any of the Contractor's employees, or parties operating or associated with the Contractor in the performance of this Contract discover evidence of human remains or burials, the Contractor shall:
   a. Immediately cease work at that location and within a 100 foot radius.
   b. Immediately notify the COR orally, giving the location and nature of the findings.
   c. Follow with written confirmation to the COR within 24 hours.

2. In additional to all Federal regulations, any human remains or Native American artifacts found on private property or state owned land used as part of this project is subject to all applicable state regulations.
   a. See Texas Health and Safety Code §711-715.
3. Exercise care so as not to disturb or damage any remains or artifacts uncovered during construction activities and provide such cooperation and assistance as may be necessary to preserve the findings for removal or other disposition by the CO.
4. Do not resume work in the area of discovery until receipt of written notice to proceed from the CO.

1.17.F. Where appropriate by reason of discovery, the CO may order delays in time of performance or changes in work, or both. When such delays or changes are ordered, an equitable adjustment will be made in the Contract in accordance with applicable clauses of the Contract.

1.17.G. The Contractor shall insert this Section (1.17. Preservation of Historical and Archaeological Data) in all subcontracts which involve performance of work on project related ground disturbing activities, regardless of location.

1.18. MIGRATORY BIRDS

1.18.A. Bird species that are protected under the Migratory Bird Treaty Act (MBTA) may nest in areas containing trees or other suitable habitat within the project limits.

1. When possible, construction activities should be scheduled to occur outside of the migratory bird nesting season (from the March 1 through August 31).
2. However, if construction activities must occur during the nesting season of birds protected under the MBTA, then the areas proposed for disturbances shall be surveyed and flagged for any nesting birds prior to construction to avoid inadvertent destruction of active nests and eggs.
3. If nesting birds are found during this survey, the birds and any related eggs must be relocated or mitigated at the Contractor's expense prior to starting construction.

1.18.B. US Fish and Wildlife (FWS) regulations do not allow for the collection or transport (dead or alive) of any migratory birds nor removal of their nests without a permit issued by the FWS Regional Bird Permit Office. If birds or nest removal is required, the Contractor or FEM shall call the COR. The COR will coordinate with a USIBWC biologist so that they identify, coordinate, and acquire a temporary permit to collect the bird(s).

1. The Contractor or the FEM shall notify the COR of any dead birds found on the project site.

1.19. NOXIOUS WEEDS

1.19.A. To prevent the potential spread of noxious weeds into work areas, Contractor shall be required to use weed-free equipment.

A current list of Texas' noxious weeds is available at www.texasnonnatives.org/Texasnonnatives-LISTS.htm or plants.usda.gov/java/noxious?rptType=State&statefips=48.

1.19.C. Pressure wash all equipment to remove dirt and vegetation before bringing onsite to limit introduction of noxious weeds.

1.19.D. All subsequent move-ins of construction equipment shall be treated in the same manner as initial move-in.

PART 2 - PRODUCTS
(Not Used)

PART 3 - EXECUTION

3.1. CONTRACTOR'S RESPONSIBILITIES

3.1.A. Stormwater Pollution Prevention Plan

1. Per Section 00.31.43 the Contractor shall prepare an individual, site specific Stormwater Pollution Prevention Plan (SWPPP) and obtain Government's compliance confirmation prior to mobilization. The Contractor shall implement their SWPPP in accordance with and Texas Pollutant Discharge Elimination System (TPDES) 2018 General Permit TXR150000.
2. USIBWC is not responsible for any SWPP operations and compliance therefore, USIBWC shall not be named as a responsible party or tasked to perform any activities, inspections, or other functions within the Contractor's SWPPP.
   a. While USIBWC will review and compliance confirm the Contractor's SWPPP, they will not sign the Contractor's document. Therefore, the Contractor's SWPPP shall not include a place for USIBWC's signature.
   b. The Contractor shall not prepare a group SWPPP for the project. Only an individual SWPPP with the Contractor as the site operator shall be compliance confirmed.
3. The Contractor shall develop and implement an SWPPP for all project-specific locations as defined in Section 01.57.00 within and outside of the Government's right of way in accordance with the specific or general stormwater permit requirements.
4. The Notice of Intent (NOI) may not be filed until the SWPPP has been compliance confirmed by the COR.
5. Copies of NOI, Waivers, and Notice of Terminations (NOT) shall be provided to the COR.
6. The Contractor shall prevent water pollution from stormwater associated with project site.
7. The plan shall include the BMPs to be used.
8. The SWPPP shall be signed, sealed, and dated by a professional engineer and shall be available and posted on the project site during the duration of construction activities.
9. A general plan covering all work areas is not permitted; each PSL must be addressed separately.
10. It is the Contractor's responsibility to obtain all permits and clearances required by the SWPPP prior to commencement of construction.
11. Attachments to your base SWPPP shall be called "attachments" and not "appendices." EPA and others reference their appendices often and having the permit appendices and then your appendices create confusion.

3.1.B. Other General Responsibilities

1. Phasing
   The Contractor shall implement control measures in the area to be disturbed before beginning construction. Disturbances shall be limited to those areas shown on the Contract Drawings. If, in the opinion of the Government, the Contractor cannot control soil erosion and sedimentation resulting from construction operations, the Government will limit the disturbed area to that which the Contractor is able to control. The Contractor shall minimize disturbance to vegetation.
2. Maintenance
   The Contractor shall immediately correct ineffective control measures, implement additional controls, and/or remove excavated material within the time requirements specified in the applicable stormwater permit.

3. Stabilization
   The Contractor shall stabilize disturbed areas where construction activities will be temporarily stopped in accordance with the applicable stormwater permit and establish a uniform vegetative cover.
4. Finished Work
   Upon acceptance of vegetative cover, the Contractor shall remove and dispose of all temporary control measures, temporary embankments, bridges, matting, falsework, piling, debris, or other obstructions placed during construction that are not a part of the finished work. Areas where temporary control measures are removed shall be reshaped and seeded.
5. Restricted Activities
   a. Disposal areas, stockpiles, or haul roads shall not be located in any wetland, water body, or streambed unless specifically allowed on the Contract Drawings.
   b. The Contractor shall not lay down gravel or other material on the floodplain to facilitate hauling unless so indicated in the Contract Drawings.
   c. The Contractor shall not install temporary construction crossings in or across any water body without the prior compliance confirmation of the appropriate resource agency and the Government.
   d. The Contractor shall restrict construction operations in any water body to the necessary areas as shown on the Contract Drawings or applicable permit; use temporary bridges, timber mats, or other structurally sound and non-eroding material for stream crossings; provide protected storage area for paints, chemicals, solvents and fertilizers at a compliance confirmed location; keep paints, chemicals, solvents and fertilizers off bare ground and provide shelter for stored chemicals.
   e. No equipment repairs shall occur on or in the floodplain/channel of the Rio Grande or Amistad Reservoir.
   f. Unless compliance confirmed by the COR, all equipment shall be parked at the Contractor's staging area or at the stockpile site at the end of each work shift.
6. Structure Intakes
   All structures shall be protected with silt fence or other appropriate BMP.
7. Installation, Maintenance and Removal Work
   a. The Contractor shall perform work in accordance with the specific or general stormwater permit; install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until earthwork construction and permanent erosion control features are in place or the disturbed area has been adequately stabilized as determined by the Government.
   b. If a device ceases to function as intended or it has visible damage, the Contractor shall repair or replace the device or portions thereof as necessary.
   c. The Contractor shall remove sediment, debris, and litter. When compliance confirmed, sediments may be disposed of in the right of way in areas where the material will not contribute to further siltation. The Contractor shall dispose of removed material in accordance with Federal, state, and local regulations.
   d. The Contractor retains ownership of stockpiled material and must remove it from the project when new installations or replacements are no longer required.
   e. The Contractor shall remove devices upon compliance confirmation or when directed. Upon removal, finish-grade and dress the area. Stabilize disturbed areas in accordance with the permit and/or as shown on the Contract Drawings or directed.

3.1.C. The Contractor shall submit the SWPPP to the COR for review and compliance confirmation.

1. The Contractor shall ensure that the SWPPP is kept maintained to include performing the required site inspections, performing training, and updating the logs within the SWPPP.

2. If the SWPPP must be amended provide a copy of the amended document to the COR for review and compliance confirmation.
3. Provide copies of SWPPP inspections, logs, and corrective action forms with that day's quality control report.

3.2. CONTROLS

3.2.A. In addition to BMPs identified in the Contractor's SWPPP, the Contractor shall provide the following as required:

1. Construction Exits / Entrances
   When tracking conditions exist, prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits. The Contractor will be required to use a street sweeper, blade, water truck, or other equipment if other methods of track out control fail to prevent buildup of mud or dust on the roadway.
2. Earthwork for Erosion Control
   a. The Contractor shall perform excavation and backfill operations to minimize erosion and to remove collected sediments from other erosion control devices.
   b. The Contractor shall ensure that:
      (1) Earth dikes, swales, or combinations of both are placed along the low crown of daily lift placement to prevent runoff spillover
      (2) Swales and dikes are placed at other locations to prevent runoff spillover or to divert runoff
      (3) Cuts are constructed with the low end blocked with undisturbed earth to prevent erosion of hillsides
      (4) Sediment traps are constructed at drainage structures in conjunction with other erosion control measures.
3. Removal of Sediment and Debris
   The Contractor shall remove sediment and debris when accumulation affects the performance of the devices.
4. Drip Pans
   The Contractor shall be responsible for providing oil drip pans to be set under any vehicle left parked overnight or being repaired within USIBWC's ROW to prevent oil drips from contaminating the soil.

3.3. ENVIRONMENTAL COMMITMENTS

3.3.A. The Contractor shall power wash all equipment prior to using onsite.

1. If equipment is demobilized and then returned to the project, it shall be power washed again.
2. Haul trucks are exempt from this requirement unless they are only used onsite.

3.3.B. Leaking or dripping equipment is not allowed to be operated on this worksite. The Contractor shall ensure that all equipment is in sound working order.

3.3.C. Equipment with oil seeps may require periodical power washing to ensure that oil is not deposited within USIBWC ROW.

1. Equipment may not be power washed within the floodplain, the river channel, or the levee footprints.

3.3.D. The Contractor shall perform construction operations incorporating any environmental commitments identified in the project's environmental documents identified in Section 00.31.24.

3.3.E. The Contractor shall include permission for Government access in arrangements for private lands used as staging areas, quarries, aggregate sources, borrow sources, etc. Government access to the private land shall be to identify cultural resources and conduct appropriate inspections.

--End of Section--

SECTION 01.61.00
COMMON PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General....1
1.1. Section Includes....1
1.2. Related Requirements....1
1.3. Submittals....1
1.4. Measurement and Payment....2
1.5. General....2
1.6. Source Control....2
1.7. Quality Control / Quality Assurance of Materials....2
1.8. Sampling, Testing, and Inspection of Materials....3
Part 2 - Products....3
2.1. Use of Materials Found on the Right of Way....3
2.2. Surplus Materials....3
2.3. Hazardous Materials....4
Part 3 - Execution....4
3.1. Transportation and Handling....4
3.2. Storage and Protection....4
3.3. Installed or Completed Items....5
3.4. Equipment Specific/Special Tools or Software....5
3.5. Manufacturer's Recommended Spare Parts to Have On Hand....5
3.6. Items Delivered to USIBWC....5
--End of Section--....5

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.45.00-Quality Control

1.2.C. Section 01.57.19-Temporary Environmental Controls

1.2.D. Section 01.61.16-Use of Recovered Materials and Biobased Products

1.2.E. Section 01.74.19-Construction Waste Management and Disposal

1.2.F. Section 01.78.36-Warranties *******

1.3. SUBMITTALS

1.3.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.3.B. Required submittals in this Section include:

1. List of Equipment Specific/Special Tools or Software, if applicable
2. List of Manufacturer's Recommended Spare Parts, if applicable

1.4. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.5. GENERAL

1.5.A. All materials used shall meet or exceed the original construction requirements from when the dam was first built.

1.5.B. It is not USIBWC's intention to relist all references to standards and tests from the original construction documents. If work is required on an item not referenced in these Technical Specifications, then the original construction documents govern.

1. If an original reference called out a standard or test that has been updated since the dam was constructed, the version in effect as of January 1, 2026, shall govern.
2. For standards and tests that have been replaced, the same date for versions applies.
3. If no known current reference can be found, the Contractor and the COR shall agree on the materials to be used.

1.6. SOURCE CONTROL

1.6.A. The Contractor shall use only materials that meet the Contract requirements.

1.6.B. Unless otherwise specified or compliance confirmed, the Contractor shall use new materials for the work. Material can be reused onsite upon approval of COR.

1.6.C. All materials installed shall be free of defects.

1.6.D. Only materials noted as safe for use near lakes and in aquatic environments shall be used.

1.6.E. The Contractor shall secure the Government’s compliance confirmation of all materials and their proposed source before their delivery, whether specified within these Technical Specifications or not.

1. All materials used on this project shall be submitted for compliance confirmation to ensure that they meeting environmental requirements of Section 01.57.19 and the recovered/recycled/biobased requirements of Section 01.61.16.
2. Additionally, the Contractor shall furnish mill test reports or manufacturer’s certification to the USIBWC for each lot or shipment of steel and iron materials.
3. COR may request any other documentation required to verify any Buy American Acts in this Contract.

1.7. QUALITY CONTROL / QUALITY ASSURANCE OF MATERIALS

1.7.A. Source Limitations
To the greatest extent possible for each item of work, the Contractor shall provide materials of a singular generic kind from a single source.

1.7.B. Compatibility of Options
Where more than one choice is available as options for Contractor's selection of a product, material, or equipment, the Contractor shall select an option which is compatible with other products, materials, or equipment. Compatibility is a basic general requirement of product, material, and equipment selections.

1.7.C. Field Measurements
Verify field measurements, lines, grades, locations, and details at the worksite prior to fabrication. It shall be the Contractor's responsibility to conform to and satisfy actual field conditions, for accuracy of dimensions, proper fit, and for adequacy of use intended.

1.7.D. The Contractor shall correct or remove materials that fail to meet Contract requirements or that do not produce satisfactory results. The Contractor shall reimburse the Government for cost incurred if additional quality assurance sampling and testing is required by a change of source.

1.7.E. Materials not meeting Contract requirements will be rejected, unless the Government approves corrective actions. Upon rejection, the Contractor shall immediately remove and replace rejected materials. Should the Contractor fail to comply with the removal of rejected materials, the Government may remove and replace defective material, and the cost of testing, removal, and replacement will be deducted from the Contractor's monthly pay estimate or final payment.

1.8. SAMPLING, TESTING, AND INSPECTION OF MATERIALS

1.8.A. The sampling and testing of materials shall be in accordance with Section 01.45.00, the Contractor's QC Plan, and the various Technical Specifications.

1. The Contractor shall provide a complete written statement of the origin, composition, and manufacture of materials to show that all materials meet the Buy American Act.
2. Materials shall be available for inspection by the Government at any time (upon delivery, stockpile, during preparation or use, after installation, etc.) and at the discretion of the Government.
3. Material which that has been tested and compliance confirmed at a supply source or staging area may be reinspected or tested before or during incorporation into the work and rejected if it does not meet Contract requirements.
4. The Contractor shall not use material that, after compliance confirmed, becomes unfit for use. The Contractor shall replace material that becomes damaged during installation or testing.
5. Unless otherwise noted in the Contract, all testing must be performed within the United States and the Government must be provided the opportunity to witness the testing.
6. If materials or processes require quality assurance testing outside the contiguous 48 United States, the Contractor shall reimburse the Government for inspection expenses.

1.8.B. The Government reserves the right to sample and test any material used on this Contract.

1.8.C. Government inspections are for the sole benefit of the Government and do not:

1. Relieve the Contractor of responsibility for providing adequate quality control measures.
2. Relieve the Contractor of responsibility for damage to or loss of the material before acceptance.
3. Constitute or imply acceptance.

1.8.D. The presence or absence of a Government inspector does not relieve the Contractor from any Contract requirements.

PART 2 - PRODUCTS

2.1. USE OF MATERIALS FOUND ON THE RIGHT OF WAY

Material found in the excavation areas, compliance confirmed by the Government for use, and meeting the Contract requirements may be used in the work. The Contractor shall not excavate or remove any material from within the right of way or within the limits of the project without written permission unless specifically noted on the Contract Drawings or in these Technical Specifications.

2.2. SURPLUS MATERIALS

2.2.A. The Contractor shall take ownership of surplus materials unless otherwise indicated in the Contract documents.

2.2.B. The Contractor shall remove and dispose of materials in accordance with Section 01.74.19. If requested or otherwise noted in these Technical Specifications, the Contractor shall provide an appropriate level of documentation to verify proper disposal.

2.3. HAZARDOUS MATERIALS

2.3.A. The Contractor shall use materials that are free of hazardous materials. The Contractor shall notify the Government immediately when a visual observation or odor indicates that materials in required material sources or on sites owned or controlled by the Government may contain hazardous materials.

2.3.B. The Government may suspend the work wholly or in part during the testing, removal, or disposition of hazardous materials on sites owned or controlled by the Government.

2.3.C. When a visual observation or odor indicates that materials delivered to the work locations by the Contractor may contain hazardous materials, the Contractor shall have a compliance confirmed commercial laboratory test the materials for contamination.

2.3.D. The Contractor shall remove, remediate, and dispose of any of these materials found to be contaminated.

2.3.E. The testing, removal, and disposition of hazardous materials introduced onto the work locations by the Contractor will be at the Contractor's expense. Calendar day charges will not be suspended, and extensions of calendar days will not be granted for activities related to handling hazardous material delivered by the Contractor.

2.3.F. Slag materials, not a component of concrete, shall not be permitted in/on the project at any time.

PART 3 - EXECUTION

3.1. TRANSPORTATION AND HANDLING

3.1.A. Coordinate schedule of product delivery to designated, prepared areas in order to minimize site storage time and potential damage to stored materials.

3.1.B. Transport and handle products in accordance with manufacturer's instructions.

3.1.C. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

3.1.D. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

3.2. STORAGE AND PROTECTION

3.2.A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

3.2.B. Store and protect products in accordance with manufacturers' instructions.

3.2.C. Store with seals and labels intact and legible.

3.2.D. Prevent contact with material that may cause corrosion, discoloration, or staining.

3.2.E. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

3.2.F. The Contractor shall store and handle materials to preserve their quality and fitness for the work and shall store materials so that they can be easily inspected and retested. When required by the Government, the Contractor shall protect the material with cover, on wooden platforms, or on other hard, clean surfaces as necessary.

3.2.G. The Contractor shall obtain compliance confirmation to store materials on the right of way. Storage on ROW is at the Contractor's discretion and risk. Additional security, flood control, or protections required to store items on ROW is at no additional cost to the Government.

3.3. INSTALLED OR COMPLETED ITEMS

Prior to issuance of substantial completion per Section 01.78.36, the Contractor shall protect all items installed, completed, constructed, etc. from damage. If any damage occurs, regardless of fault or source, it shall be repaired or replaced, without charge to the Government, to bring all items and materials back into compliance with the Contract documents.

3.4. EQUIPMENT SPECIFIC/SPECIAL TOOLS OR SOFTWARE

3.4.A. When equipment specific tools or special tools are required to perform regular maintenance on installed equipment, one such tool shall be provided to the Government.

1. The tool part number, description, and the company name with address and/or website shall also be provided where additional tools can be ordered.

3.4.B. When manufacturer specific software is required to perform regular maintenance on the installed equipment, one copy of the software shall be provided to the COR.

1. All manuals, user guides, and other documentation required to operate the software shall also be provided.
2. Provide all files necessary to reinstall, installation instructions, and all files produced for the specific installation (e.g., graphics files, DDC program files, etc.).
3. Provide passwords and/or login information.

3.4.C. When these items are delivered directly to Field Office personnel, IBWC Form 359 shall be completed and provided to the COR.

3.5. MANUFACTURER'S RECOMMENDED SPARE PARTS TO HAVE ON HAND

3.5.A. The Design-Builder shall supply a complete set of manufacturer recommended spare parts for all installed equipment.

1. If multiples of the same piece of equipment are installed under this Contract, provide the greater of 2 sets or the number of sets of spare parts corresponding to the minimum number of pieces of equipment that must remain operational for continued Government operations.

3.5.B. When these items are delivered directly to Field Office personnel, IBWC Form 359 shall be completed and provided to the COR.

3.6. ITEMS DELIVERED TO USIBWC

All items delivered to USIBWC that are not integrated into the final construction including, but not limited to, spare parts, tools, consumables, appurtenances, software, keys, manuals, equipment, and excess materials shall be documented on IBWC Form 359.

--End of Section--

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SECTION 01.61.16
USE OF RECOVERED MATERIALS AND BIOBASED PRODUCTS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 1
1.5. Measurement and Payment 1
1.6. General 2
1.7. Resource Conservation Construction Plan 2
1.8. BioPreferred Program 2
1.9. Comprehensive Procurement Guidelines 2
Part 2 - Products 3
2.1. Biobased Materials 3
Part 3 - Execution 3
3.1. Reporting 3
--End of Section-- 3

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.3. REFERENCE STANDARDS

1.3.A. United States Code (USC)

1. Resource Conservation and Recovery Act (RCRA), 42 USC 6901 et seq.
2. Farm Security and Rural Investment Act (FSRIA), 7 USC 7624

1.3.B. Executive Order (EO)

1. Planning for Federal Sustainability in the Next Decade, EO 13693

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Resource Conservation Construction Plan
2. The Contractor shall provide data on the quantity and dollar values of biobased and recycled-content products used in this Contract. The data will be submitted to the COR quarterly.
3. Either under this Section or under the technical section governing the products required, provide certification of the products biobased and recovered material contents.

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL

1.6.A. The Contractor shall use products that are composed of the highest% of recovered material or biobased content practicable.

1.6.B. The Contractor must comply with Section 9002 of the Farm Security and Rural Investment Act of 2002 (FSRIA), Executive Order (EO) 13693, "*Planning for Federal Sustainability in the Next Decade*" Sections 3(h), 3(i), and 3(j), Resource Conservation and Recovery Act (RCRA), and the Federal Acquisition Regulation to provide biobased and recycled-content products.

1.7. RESOURCE CONSERVATION CONSTRUCTION PLAN

1.7.A. Within 30 days of Contract award, the Contractor shall submit a Resource Conservation Construction Plan. This submittal shall be compliance confirmed by the COR. The Contractor shall not commence work until this submittal is compliance confirmed.

1.7.B. The Plan must be reviewed and updated annually and as required by the COR. The Plan must contain and define the following elements:

1. The Contractor's written policy stating its commitment to the use of biobased and recycled-content products, employee health and safety, and sound environmental management practices.
2. Detail on how the Contractor intends to keep abreast of the development and increasing availability of designated and non-designated biobased and recycled-content products and how any new or improved products will be incorporated on an ongoing basis into Contract performance.
3. Proposed biobased and recycled-content project products which are in accordance with the criteria included above. At a minimum, the Plan must identify products by brand name for each of the product types.
   a. Items are not limited to those shown in 2.1. below.
   b. NOTE: A Contractor may propose more than one product within a product category and/or propose a product or products addressing more than one product category.
4. Project specific plans for diverting nonhazardous solid waste from landfills.

1.7.C. The Plan shall be updated with current product data whenever new products or different products are chosen for work under this Contract.

1.8. BIOPREFERRED PROGRAM

1.8.A. The US Department of Agriculture (USDA) manages the BioPreferred program. BioPreferred includes a preferred procurement program for Federal agencies and their Contractors and a voluntary labeling program for the broad scale consumer.

1. Under the Federal procurement preference program, USDA designates categories of biobased products. Federal agencies and their Contractors are then required to give preferential consideration to these designated product categories when making purchases.
2. USDA BioPreferred product categories are shown at: www.biopreferred.gov/BioPreferred/faces/pages/ProductCategories.xhtml

1.9. COMPREHENSIVE PROCUREMENT GUIDELINES

1.9.A. The US Environmental Protection Agency (EPA) manages the Comprehensive Procurement Guideline (CPG) program to promote the use of materials recovered from solid waste.

1. Once a product is designated, procuring agencies are required to purchase it with the highest recovered material content level practicable. Recovered Materials Advisory Notices (RMANs) provide purchasing guidance and recommend recovered and postconsumer material content levels for designated items.
2. EPA CPG product list is at:

www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program

1.9.B. Buying products made with recovered materials ensures that the materials collected in recycling programs will be used again in the manufacture of new products.

PART 2 - PRODUCTS

2.1. BIOBASED MATERIALS

2.1.A. The Contractor shall make maximum use of products containing biobased materials. Table 3 lists the minimum biobased content of designated construction products. The Contractor shall provide items that meet or exceed the requirements of Table 3 unless one of the three items below applies.

1. Product is not available within a timeframe required for compliance with the Contract performance schedule.
2. Product cannot meet Contract performance requirements.
3. Product is unavailable at a reasonable price.

2.1.B. If the Contractor requests a variance from Table 3, supporting data must be provided to the COR prior to proceeding with another product.

2.1.C. All items shall be of a type and quality that conform to applicable specifications and standards. All items to be used in the performance of work described herein are subject to the compliance confirmation of the COR.

Table 3 - Required Minimum Biobased Content

Product Category	Description	Minimum Biobased Content
Bioremediation Materials	Dry or liquid solutions (including those containing bacteria or other microbes but not including sorbent materials) used to clean oil, fuel, and other hazardous spill sites.	86%
Blast Media	Abrasive particles sprayed forcefully to clean, remove contaminants, or condition surfaces, often preceding coating.	94%
Hydraulic Fluids-Stationary Equipment	Fluids formulated for use in stationary hydraulic equipment systems that have various mechanical parts, such as cylinders, pumps, valves, pistons, and gears, that are used for the transmission of power (and also for lubrication and/or wear, rust, and oxidation protection).	44%
Lubricants-Chain and Cable	Products designed to provide lubrication in such applications as bar and roller chains, sprockets, and wire ropes and cables. Products may also prevent rust and corrosion in these applications.	77%
Metal Cleaners, Other	Products that are designed to clean and remove grease, oil, dirt, stains, soils, and rust from metal surfaces. Products that are designed to clean and remove grease, oil, dirt, stains, and soils from metal surfaces other than stainless steel.	56%
Paint Removers	Products formulated to loosen and remove paint from painted surfaces.	41%

PART 3 - EXECUTION

3.1. REPORTING

The Contractor shall provide data on the quantity and dollar values of biobased and recycled-content products used in this Contract. The data will be submitted to the COR quarterly.

--End of Section--

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SECTION 01.71.13
MOBILIZATION

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General....1
1.1. Section Includes....1
1.2. Related Requirements....1
1.3. Submittals....1
1.4. Measurement and Payment....1
1.5. General....2
--End of Section--....2

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.45.00-Quality Control

1.3. SUBMITTALS

1.3.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.3.B. Required submittals in this Section include:

1. Schedule of Values

1.4. MEASUREMENT AND PAYMENT

1.4.A. Measurement
This Bid Item will be paid on the lump sum basis and no activity will be measured in the field for the purpose of payment for this individual activity.

1.4.B. Payment

1. This Bid Item will be paid for based on the lump sum unit price identified in Section B of the Contract Provisions identified as "**Mobilization/Demobilization**."
2. Payment constitutes full compensation for furnishing, delivering, handling, and/or installing all material, labor, services, testing, tools, equipment, and for other incidental work necessary to meet Contract requirements applicable. The Contractor will not be allowed payment for rejected items.
3. The Government will pay for insurance and bonds after issuance of the Notice to Proceed. Copies of paid invoices must be provided with pay estimate.
4. In no case will the Government pay more than 70% of this CLIN amount prior to full demobilization.
5. Final payment of mobilization will not be made until substantial completion has been achieved, the Contractor has completely demobilized, and the site has passed final inspection as outlined in Section 01.45.00.
6. The progress payments are made to benefit the Contractor. Progress payments do not constitute acceptance of any portion of the work and do not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment.

1.5. GENERAL

1.5.A. Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for:

1. Movement of personnel, equipment, supplies, and incidentals to the site.
2. Establishment of all offices, buildings, and other facilities necessary for the work.
3. All other work and operations which must be performed, or costs incurred, prior to beginning the work.
4. Premiums paid for performance and payment bonds.
5. Premiums paid for Contract required project specific insurance.
6. Setting up a field office and staging area.

1.5.B. Demobilization shall include, but not be limited to:

1. All activities and costs for transportation of personnel, equipment, and supplies not required or included in the Contract from the site.
2. Disassembly, removal, and site cleanup of offices, buildings, and other facilities assembled on the site.
3. Repair of access roads, temporary haul roads, and equipment parking areas leaving the project site in the same or better condition than at the start of the project.
4. Cleanup, removal of all trash, and housekeeping needed to restore a neat and orderly project site.

1.5.C. The Contractor may include insurance premiums for insurance required under this Contract of which the Government is listed as an additional insured in mobilization.

1. Automobile insurance, worker's compensation insurance, and health insurance are not covered under mobilization.

1.5.D. Purchase of equipment and labor administrative costs are not considered mobilization costs.

1.5.E. The Government will not pay additional mobilization compensation for work under a Contract Modification unless the Contractor is specifically instructed to demobilize by the CO or it is agreed to as part of the modification.

--End of Section--

SECTION 01.74.19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 1
1.5. Measurement and Payment 1
1.6. General Clean-Up and Disposal of Waste Materials 2
1.7. Recyclables 2
1.8. Hazardous Materials. 2
1.9. Nonhazardous Materials. 2
1.10. Failure to Perform 3
Part 2 - Products (Not Used) 3
Part 3 - Execution 3
3.1. Reporting 3
--End of Section-- 3

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.57.19-Temporary Environmental Controls

1.3. REFERENCE STANDARDS

1.3.A. Code of Federal Regulations (CFR)

1. 40 CFR 261.3, Definition of Hazardous Waste

1.3.B. Federal Acquisition Regulation (FAR)

1. FAR 52.236-12, Cleaning Up

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Bills of lading, disposal tickets/landfill receipts, and other items that document the end result of materials removed from the project site.
2. Project Disposal Totals
3. Landowner Written Permission for Disposal

1.5. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.6. GENERAL CLEAN-UP AND DISPOSAL OF WASTE MATERIALS

1.6.A. The Contractor shall be responsible for the cleanup and disposal of removed items, waste materials, and rubbish from the construction site, field office(s), and staging area(s).

1.6.B. The Contractor shall dispose of recyclable and reusable products through waste disposal only as a last option.

1.6.C. The disposal of waste materials and rubbish shall be in accordance with applicable Federal, state, and local laws and regulations and with the requirements in these Contract documents. Should a conflict exist in the requirements for cleanup and disposal of waste materials, the most stringent requirements shall apply.

1.6.D. All waste unless otherwise noted in these Technical Specifications shall be disposed of at a licensed landfill or waste disposal facility.

1.6.E. No excess materials shall be deposited within Government property, unless compliance confirmed by the Government. Excess materials not compliance confirmed by the Government for placement on Government property shall be disposed of or reused by the Contractor at another site.

1.6.F. The Contractor shall keep records of the types and amounts of waste materials produced and of the disposal of all waste materials. These records shall be kept current and accurate Bills of Lading, disposal tickets/landfill receipts, and other items that document the end result of materials removed from the project site shall be submitted to the COR.

1.6.G. In accordance with FAR Clause 52.236-12, entitled "Cleaning Up," the Contractor shall maintain work and storage areas free from accumulations of waste materials and rubbish and before completing the work, shall remove all temporary facilities, including, buildings, unused materials, concrete forms, and other like materials, which are not a part of the permanent work.

1.7. RECYCLABLES

1.7.A. Scrap metal shall be donated or sold to scrap dealers or recycle centers whenever possible.

1.7.B. Removed asphalt can be donated or sold to an asphalt plants for reuse.

1.7.C. Used concrete can be donated or sold to a supplier who will crush it and reuse it as aggregate.

1.7.D. The Contractor shall dispose of recyclable and reusable products through waste disposal only as a last option.

1.7.E. Provide totals of recycled materials by type and pounds.

1.8. HAZARDOUS MATERIALS.

1.8.A. All hazardous materials or wastes used or generated by the Contractor or discovered in work or storage areas defined as hazardous by 40 CFR 261.3, or other Federal, state, or local laws or regulations shall be disposed of by the Contractor in accordance with these Contract documents and applicable Federal, state, and local laws and regulations.

1.8.B. Unknown waste materials that may be hazardous shall be tested and the test results shall be submitted immediately to the Government for review.

1.8.C. A copy of all hazardous waste manifests shall be submitted immediately to the Government for review.

1.9. NONHAZARDOUS MATERIALS.

1.9.A. All nonhazardous materials or wastes used or generated by the Contractor to include, but not limited to, refuse, garbage, sanitary wastes, industrial wastes, oil, and other petroleum products shall be disposed of by the Contractor in accordance with these Contract documents and applicable Federal, state, and local laws and regulations.

1.9.B. All materials within the construction site, Contractor's field office, and staging area(s) shall be removed prior to completion of the work under these Contract documents. Unless otherwise noted in these sections, all materials removed shall become the property of the Contractor.

1.10. FAILURE TO PERFORM

In the event of the Contractor's failure to perform the work required by this Section, the work will be performed by the Government and the Contractor shall be responsible for the cost of such work. The costs for temporary controls provided by the Government shall include both direct labor costs and other direct costs associated with the work.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1. REPORTING

3.1.A. Bills of Lading, disposal tickets/landfill receipts, and other items that document the end result of materials removed from the project site shall be provided to COR.

3.1.B. Contractor shall provide end of project totals for:

1. Nonhazardous solid waste (not construction waste) hauled to landfill.
2. Nonhazardous solid waste (not construction waste) diverted from landfill.
3. Nonhazardous construction waste hauled to landfill.
4. Nonhazardous construction waste diverted from landfill.
5. Recycled material by type and pounds.

3.1.C. The final disposal of location of all materials shall be provided.

--End of Section--

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SECTION 01.77.19
CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General....1
1.1. Section Includes....1
1.2. Related Requirements....1
1.3. Reference Standards....1
1.4. Measurement and Payment....1
1.5. General....2
1.6. Final Acceptance by Government....2
Part 2 - Products....3
2.1. Closeout Documents....3
Part 3 - Execution....3
3.1. Construction Closeout....3
--End of Section--....3

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.70.00-Delivery of Data to USIBWC

1.2.B. Section 00.73.73-Requirements for Sensitive But Unclassified

1.2.C. Section 01.33.00-Submittal Procedures

1.2.D. Section 01.45.00-Quality Control

1.2.E. Section 01.52.13-Field Offices and Sheds

1.2.F. Section 01.61.00-Common Product Requirements

1.2.G. Section 01.78.36-Warranties *******

1.2.H. Section 01.78.39-Record Drawings

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR 52.236-12, Cleaning Up

1.4. MEASUREMENT AND PAYMENT

1.4.A. Construction

1. Measurement
   a. This Bid Item will be paid on the lump sum basis and no activity will be measured in the field for the purpose of payment for this individual construction activity.
   b. Work includes, but is not be limited to, Record Drawings (Section 01.78.39), warranty requirements (Section 01.78.36), shop drawing submittals (Section 01.33.00), and appurtenances as appropriate.
2. Payment
   a. This Bid Item will be paid for based on the lump sum price identified in Section B of the Contract Provisions identified as "**Contract Closeout**."

b. Payment constitutes full compensation for furnishing, delivering, handling, and/or installing all material, labor, services, testing, tools, equipment, and for other incidental work necessary to meet Contract requirements applicable. The Contractor will not be allowed payment for rejected items.

c. No partial payments are authorized on this CLIN. One hundred% (100% payment will not be made until completion and approval of all Contract closeout activities detailed in this Section or in other Contract documents.

1.5. GENERAL

This Section includes administrative and procedural requirements for worksite demobilization and cleanup; submission of project record documents, inspection and correction of unsatisfactory conditions, if necessary; and final inspection prior to final progress payment.

1.6. FINAL ACCEPTANCE BY GOVERNMENT

1.6.A. Final acceptance by the Government will not take place until all of the following have occurred:

1. The construction site and all construction work shall pass a final inspection as specified in Section 01.45.00.
   a. All punch list items shall be completed and inspected by the Government Inspector and COR.
   b. The Contractor shall clean the entire worksite as provided in Section 01.52.13 and FAR 52.236-12.
2. The Contractor shall submit all reports for testing and inspections of the work as specified in Section 01.45.00.
   a. QC tests and reports shall be organized by type of material, type of test, and location.
   b. A signed copy of all Daily Contractor Quality Control Reports (reports shall include any items originally included with daily report) shall be provided to the COR.
   c. Original minutes from all preparatory phase inspections and initial phase meetings shall be provided.
   d. The Contractor shall indicate by manner of testing, material tested, and locations tested to show how the quality control requirements of the Contract, including minimum test results and frequency of testing, were met. Provide this information in a written report signed by the Contractor that contains a certification that all work was constructed per Contract requirements.
3. Copies of all weekly toolbox safety meetings, other safety meetings, safety logs, or other safety items shall be provided to the COR in an organized manner. If electronic copies of these items have not already been provided, include a CD with all items in pdf format.
4. All submittals required under this Contract shall have been submitted to the COR and shall have received compliance confirmation.
5. Substantial completion has been reached and IBWC Form 255 has been submitted per Section 01.78.36.
6. All warranties have been provided per Section 01.78.36.
7. The Contractor shall submit Record Drawings to the Government. Refer to Section 01.78.39 for record drawing requirements.
8. Copies of Release of Claims from all affected public entities (DOTs, irrigation districts, etc.) as well as from all borrow pit and haul road owners shall be provided to the COR to show proof of clean up and restoration.
9. The Contractor shall submit evidence of SWPP Notice of Termination (NOT) filing as well as copies of any final environmental inspections performed on the site and PSLs.
10. All special tools and/or software per Section 01.61.00 shall be provided, if applicable.

11. All spare parts Section 01.61.00 shall be provided, if applicable.
12. All IBWC Form 359 detailing delivery of items to USIBWC per Section 01.61.00 shall be provided.
13. Certified payrolls covering all Davis-Bacon workers on the site, including owner-operator truck drivers, shall have been provided to the COR.
14. Contractor has certified to the CO that all data marked SBU, whether provided by USIBWC or created under this Contract, has been destroyed in a manner to preclude recognition or reconstruction by themselves and all subcontractors and suppliers/vendors to whom the data was issued per Section 00.73.73.

PART 2 - PRODUCTS

2.1. CLOSEOUT DOCUMENTS

All documents and items provided shall meet the minimum document requirements noted in Section 00.70.00 as well as additional requirements noted in associated Technical Specification sections.

PART 3 - EXECUTION

3.1. CONSTRUCTION CLOSEOUT

Following construction substantial completion, all items listed in Paragraph 1.6. that relate to the construction portion of work shall be provided within the timeframe allocated in the Contract for "**Closeout**."

--End of Section--

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SECTION 01.78.36
WARRANTIES *******

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 1
1.5. Record Documents 2
1.6. Measurement and Payment 2
1.7. General 2
1.8. Warranty Of Construction 2
1.9. Manufacturer's Warranties 2
1.10. Warranty Period 3
1.11. Substantial Completion 3
1.12. Warranty Priority List 4
Part 2 - Execution 4
2.1. Minimum Warranty Requirements 4
2.2. Warranty Service Requirements 5
2.3. Repeated Issues with Warranted Items 5
--End of Section-- 5

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.11.00-Summary of Work

1.2.B. Section 01.33.00-Submittal Procedures

1.2.C. Section 01.45.00-Quality Control

1.2.D. Section 01.77.19-Closeout Requirements

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR 52.246-12, Inspection of Construction
2. FAR 52.246-21, Warranty of Construction

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Copies of all Executed Warranties

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. Warranty Reports

1.6. MEASUREMENT AND PAYMENT

1.6.A. No separate measurement or payment will be made for items specified in this Section. Include all costs of furnishing and installing required work in applicable prices offered in Contract for Contract Closeout (Section 01.77.19) for which Warranties are required.

1.6.B. Payment constitutes full compensation for furnishing, delivering, handling, and/or installing all material, labor, services, testing, tools, equipment, and for other incidental work necessary to meet Contract requirements applicable. The Contractor will not be allowed payment for rejected items.

1.6.C. The progress payments are made to benefit the Contractor. These payments are made based upon preliminary field inspections, and preliminary testing data. Progress payments do not constitute acceptance of any portion of the work and do not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment.

1.7. GENERAL

1.7.A. Obtain warranties from responsible Subcontractors, suppliers, and manufacturers, within 60 days after completion of the applicable item of work, but no later than the date of warranty commencement.

1.7.B. Except as noted in Paragraph 1.10. below, starting date of warranty is date of substantial completion.

1.7.C. All items from FAR 52.246-21 Warranty of Construction apply except that the length of the warranty shall be as noted in Paragraph 1.8. of this Section.

1.7.D. A warranty requires that if a warranted item fails to meet Contract requirements, it shall be repaired, replaced, or have other remedial actions taken to bring the item into compliance with the Contract requirements.

1.8. WARRANTY OF CONSTRUCTION

1.8.A. Contractor warrants that work performed under this Contract conforms to the Contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier for a period of 2 years.

1.8.B. The Contractor is responsible for providing warranties on items when the manufacturer's warranty is less than the time period indicated in Paragraph 1.8.A. or when the manufacturer's warranty does not cover full repair and/or replacement as appropriate.

1.8.C. Any item damaged due to failure or malfunction of item warranted under this Contract shall be repaired or replaced at no cost to the Government.

1.8.D. The Contractor shall supply the CO with a telephone number, mailing address, email address, and contact name for the point of contact with the Contractor for any required warranty work.

1.9. MANUFACTURER'S WARRANTIES

1.9.A. The Contractor shall obtain all warranties that would be given in normal commercial practice. All warranties shall be executed in writing for the benefit of the Government.

1.9.B. The Contractor shall transfer to the Government warranties and guarantees required by the Contract or received as part of normal trade practice.

1.9.C. If manufacturer's warranties require proof of purchase and/or installation date, such items shall be provided by the Contractor and be included with the warranty documentation.

1.10. WARRANTY PERIOD

1.10.A. Commencement of warranty under FAR 52.246-21 Warranty of Construction, this Section, and any other Contract warranty clauses will not occur until substantial completion, unless one of the following apply.

1. The Certificate of Substantial Completion (IBWC Form 255) designates a warranty commencement date, other than the substantial completion date, for certain work or portions of work.
2. By separate written agreement between the Contractor and the Government, a designated and completed portion of the work is occupied or used by the Government during the construction period, in which case any warranty related to that work, or portions of work, shall commence when the occupancy or use begins.
3. Item of work is completed after substantial completion date. Warranty begins upon completion of construction, including required submittals, inspections, and tests, unless another date is agreed to between the Contractor and the Government.

1.10.B. If items under this Contract are repaired or replaced, the warranty period shall begin anew from that date.

1.10.C. Repair or replacement of one item does not affect the warranty period of another item. Each warranty shall run independent of each other.

1. As an example, assume that Paragraph 1.8. requires a minimum warranty for construction of 3 years but the HVAC manufacturer warrants their compressor for 5 years, the roof is warranted for 20 years, and the parking lot paving is warranted for 4 years. Two years after substantial completion, the HVAC compressor is repaired. Only the HVAC compressor warranty is reset. All other warranty expiration dates remain unchanged.

1.11. SUBSTANTIAL COMPLETION

1.11.A. Substantial completion means the stage in the progress of the work, as determined and certified by the CO in writing to the Contractor, on which the work is sufficiently complete and satisfactory that the property may be occupied or used for the purpose for which it is intended (Section 01.11.00 1.5.) and USIBWC has full and unrestricted use of the project.

1. All work other than minor items such as touch-up, adjustments, and minor replacements or installations remain to be completed or corrected.
2. Substantial completion shall not have been achieved if all systems and parts are not functional.

1.11.B. At a minimum, the following items of work shall be completed, including final inspections per Section 01.45.00 1.13. as well as all QC and surveying documentation required to show that work met project requirements, before substantial completion can be considered.

1.11.C. USIBWC does not offer partial substantial completion of the Contract except for vegetation establishment.

1.11.D. Substantial completion cannot be met if completion of punch list items and remaining work items will interfere or disrupt USIBWC operations.

1.11.E. Failure to list any item on the punch list shall not relieve the Contractor of responsibility for complying with the requirements of the Contract.

1.11.F. The Contractor shall submit IBWC Form 255, Certificate of Substantial Completion, when they believe that all items of the project have been completed.

1.11.G. Revocation of Substantial Completion

In regard to FAR 52.246-12(i), acceptance of work via substantial completion shall not be final and conclusive until issuance of final payment on this Contract. Additionally, these conditions exist for work accepted by the Government:

1. Failure by the Contractor to complete the punch list items by the date noted on IBWC Form 255 shall cause the date of substantial completion to be void. A new substantial completion date will be established once punch list items are complete.
   a. If the warranty commencement date was based upon the substantial completion date, then that date shall also be void.
2. If a Certificate of Substantial Completion has been issued but it is found that items covered by this Certificate do not meet the Contract requirements, the Government may revoke the Certificate of Substantial Completion.

1.11.H. Final Acceptance

Upon completion of all construction and all testing under this Contract as well as submittal of all documents and other items required to complete the Contract requirements (e.g. closeout documents, warranties, surveys, Record Drawings, O&M manuals, etc.), the Government shall fully accept the work and notify the Contractor that they may submit their final pay estimate.

1.12. WARRANTY PRIORITY LIST

1.12.A. Warranty service shall be performed within the timeframes noted for the priority codes below. All timeframes noted below are measured from the time notice is given to the Contractor of a warranty item.

1. Priority Code B
   The Contractor shall perform onsite inspection to evaluate the situation and determine the course of action within 2 business days, initiate work within 4 business days, and work continuously during USIBWC facility business hours until item is returned to full operating conditions.
2. Priority Code C
   The Contractor shall perform onsite inspection to evaluate the situation and determine the course of action within 4 calendar days, initiate work within 7 business days, and work continuously during USIBWC facility business hours until item is returned to full operating conditions.

Table 4 - Warranty Priority Code B

Item	Issue
Safety Hazards	• Any endangerment to health or safety

Table 5 - Warranty Priority Code C

Item	Issue
Radial Gates	• Malfunction of gate or gate component
Other Construction Defects	• Failure to meet Contract requirements

PART 2 - EXECUTION

2.1. MINIMUM WARRANTY REQUIREMENTS

2.1.A. For warranties covered by the Contractor, provide a written statement noting warranty coverage and length of time.

2.1.B. Verify that warranty documents contain full information.

2.1.C. Include original warranties in submittal to COR.

2.2. WARRANTY SERVICE REQUIREMENTS

2.2.A. Following notification by the CO, COR, or authorized Government representative, the Contractor shall respond to warranty service requirements in accordance with the timeframes of the Priority Lists.

2.2.B. If the Contractor does not perform the construction warranty work within the timeframes specified, the Government will perform the work and back charge the costs to the Contractor.

2.2.C. All repairs and/or replacements performed under warranty shall be completed by a technician, applicator, or installer certified to work on the material to be repaired/replaced.

2.2.D. All installations or applications for replacements performed under warranty shall comply with these Technical Specifications. Repairs shall follow manufacturer's instructions.

2.2.E. The Contractor shall submit a warranty report on any warranty item that has been repaired during the warranty period.

1. The report shall include the cause of the problem, date reported, corrective action taken, when the work was completed, and who completed the work.
2. Report shall include pictures documenting at a minimum, new/updated equipment tags, item condition before and after warranty work, and, if replaced, equipment serial number nameplates.
3. Include documentation that items used comply with the materials compliance confirmed during construction.

2.2.F. Unless otherwise directed, the Contractor shall coordinate all work through the person that provided notification of the warranty service requirements.

2.3. REPEATED ISSUES WITH WARRANTED ITEMS

On or after the third repair of the same item, or component part thereof, the Government reserves the right to have the Contractor replace the item instead of repairing it.

--End of Section--

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SECTION 01.78.39
RECORD DRAWINGS

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Record Documents 1
1.5. Measurement and Payment 2
1.6. General 2
1.7. Pay Estimates 2
1.8. Record Drawing Requirements 2
1.9. Contractor Record Drawing Preparer 3
1.10. Certification of Record Drawings 3
1.11. Minimum Drawing Requirements 4
1.12. Drawing Numbers 4
Part 2 - Products 5
2.1. Record Drawings 5
Part 3 - Execution 6
3.1. Record Drawings 6
--End of Section-- 6

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.60.00-USIBWC Forms and Standard Documents

1.2.B. Section 01.77.19-Closeout Requirements

1.2.C. Section 01.78.36-Warranties *******

1.3. REFERENCE STANDARDS

1.3.A. International Boundary and Water Commission (IBWC)

1. USIBWC's Drawing and CAD Standards, November 22, 2022

1.4. RECORD DOCUMENTS

1.4.A. Required documents to be provided to Government in this Section include:

1. Monthly pay estimate submittals.
2. Record Drawings shall be submitted to the COR for review and approval.
   a. If review of the preliminary Record Drawings reveals errors and/or omissions, the drawings will be returned to the Contractor for corrections.
   b. The Contractor shall make all corrections and return the Record Drawings to the COR within 14 calendar days of receipt.

1.5. MEASUREMENT AND PAYMENT

1.5.A. No separate measurement or payment will be made for items specified in this Section. Include all costs of required work in applicable prices offered in Contract for Contract Closeout (Section 01.77.19) for which Record Drawings are required.

1.5.B. Payment constitutes full compensation for furnishing, delivering, handling, and/or installing all material, labor, services, testing, tools, equipment, and for other incidental work necessary to meet Contract requirements applicable. The Contractor will not be allowed payment for rejected items.

1.5.C. Record Drawings shall be shown in the Schedule of Values.

1.5.D. The progress payments are made to benefit the Contractor. These payments are made based upon preliminary field inspections, and preliminary testing data. Progress payments do not constitute acceptance of any portion of the work and do not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment.

1.6. GENERAL

1.6.A. Record Drawings (as-builts or as-constructed drawings) shall be performed under the supervision of a registered engineer or surveyor, as applicable, licensed to practice in the State of Texas.

1.6.B. The terms "drawings," "Contract Drawings," "drawing files," "working Record Drawings," and "plans" refer to Contract Drawings which are revised to be used for Record Drawings showing end of project as-built conditions.

1.6.C. Record Drawings are an official record of the project at the time of construction completion. The original "as-designed" Contract Drawings are modified, or new drawings are created to show all additions, deletions, and other changes made during construction. Accurate Record Drawings are very important for project operation and maintenance as well as future modifications.

1.6.D. The Contractor shall keep one current and updated record copy of all Technical Specifications, Contract Drawings, addenda, supplementary drawings, shop drawings, modifications, and clarifications at the Contractor's field office. Specifications, Contract Drawings, supplementary drawings, and shop drawings shall be annotated to show all changes made during the construction process. These shall be available to the Government on a monthly basis to inspect for accuracy and completeness. Failure by the Contractor to maintain a current and satisfactory record copy of the aforementioned documents shall result in retainage of an appropriate amount of the monthly pay estimate, as determined by the Government.

1.6.E. Full compliance with this Section must be completed for closeout requirements of Section 01.77.19 to be met.

1.7. PAY ESTIMATES

1.7.A. The Contractor shall keep a copy of markups for the Record Drawings onsite. Markups may include a hardcopy of the construction drawings that have changes marked as construction continues, a log of items to include with the Record Drawings, notes, sketches, etc.

1. Markups shall be available for review onsite at any time.
2. The COR may make additions or annotations to these markups.

1.7.B. The Contractor shall submit a copy of the current AutoCAD files that include up to date survey data and surfaces, and any applicable pdfs with their pay estimates.

1.8. RECORD DRAWING REQUIREMENTS

1.8.A. Drawings shall be created using USIBWC's standard border, USIBWC's ctb file, and USIBWC's "*Drawing and CAD Standards*."

1. These items are available on USIBWC's website under link 'Std-Drawings' (see Section 00.60.00).

1.8.B. Final construction elevations, layout, quantities, coordinates, slopes, dimensions, workmanship, material, and method of constructability shall be clearly shown on the Record Drawings.

1. USIBWC only has pdf versions of the drawings provided.
2. New drawings shall meet all of the requirements noted in Paragraph 1.11. below.

1.8.C. The following information is provided to improve the quality of and to facilitate preparation of the Record Drawings. The most important guideline is that the Record Drawings shall be complete, understandable, and shall show the constructed project. Someone with no knowledge of the design or construction should be able to review the Record Drawings and clearly know what exists in the field and how project was constructed.

1. Use brief written explanations on Record Drawings to describe changes from design. Do not simply reference Contract modification number, RFI number, or other related documents.
   a. RFI or other supporting documentation may be provided on an additional sheet as a supplemental drawing.
2. Legibility of lettering and digit values shall be precise and clear when marking drawings and shall clarify ambiguities concerning the nature and application of change involved.
3. Record Drawings shall only show post construction state. Revise all features, data, and captions to show as-built condition.
4. Errors in notation on Contract Drawings shall be corrected and shall clearly show as-built condition.
5. Include shop drawings as additional drawings to show constructed items.

1.8.D. Record Drawings shall clearly delineate what features are as-built and which features were not modified by construction.

1.8.E. Record Drawings shall only be printed in black and white unless original drawing had color pictures. Logos are not considered in determining whether the drawing is black and white or color.

1.8.F. Except noted below, the designer's name and engineering stamp shall be completely removed from the Record Drawings. The only firm names allowed on the Record Drawings are the Construction Contractor's and their subcontractors (engineers, surveyors, etc.). The only seals and stamps on the Record Drawings shall be those related to the production of the Record Drawings.

1. Design/construction drawings that have no requirements to be modified (e.g. Typical Levee Section, USIBWC Standard Drawings) may be left in the Record Drawings without being stamped and certified by the Construction Contractor.

1.9. CONTRACTOR RECORD DRAWING PREPARER

Only personnel proficient in the preparation of engineering drawings and AutoCAD (at least 3 years' experience) shall be employed to modify the original Contract Drawings and prepare additional new drawings.

1.10. CERTIFICATION OF RECORD DRAWINGS

1.10.A. All Record Drawings shall be signed and sealed by a registered, professional engineer or surveyor.

1. All Record Drawings may contain a statement that they are not considered a certified document as to the original design, but only as to the record drawing changes and documentation of final construction.
2. All Record Drawings shall contain a certification similar to: "*I certify that the locations, elevations, depths, and comments regarding construction accurately reflect existing field conditions*."
3. If the engineer signing the drawings did not personally observe and confirm the record conditions or have it done under their direct supervision, then the engineer must clearly indicate the source of the

as-built information (e.g., field changes noted are from mark-up Contract Drawings supplied by the Contractor).

a. The engineer may include a caveat on the Record Drawings with a notation as to what they actually confirmed based upon information they obtained through observation, construction inspection, interview, samples, or other useful information acquired during construction of project.

1.10.B. Certifications shall be written in text sized no smaller than 0.10 inch.

1.10.C. The Contractor may choose to leave the certification unsigned until Record Drawings are found to meet these requirements.

1.11. MINIMUM DRAWING REQUIREMENTS

1.11.A. Drawings shall follow USIBWC's "*Drawing and CAD Standards.*" Guidance on providing files to USIBWC and creating Record Drawings is provided in the section entitled "Contractor Drawing Deliverables."

1. The drawing purpose within USIBWC's standard border shall be "RECORD DRAWING."
2. Both the original Solicitation number and the Contract number shall be completed within USIBWC's standard border.
3. Every sheet shall include Contractor's name, USIBWC Contract number, and Record Drawing date.

1.11.B. The drawing number, name, and description shall not be changed.

1. New supplemental drawings created by the Contractor may use an original non-USIBWC drawing number with the addition of a letter suffix, i.e. -A.
2. A new USIBWC drawing number must be requested per Paragraph 1.12.C.

1.11.C. If Record Drawings are revised after acceptance/completion, thoroughly note so in a revision block.

1.11.D. Record Drawings are required to reflect the same degree of detail as the original Contract Drawings. This includes detailing items and providing elevations in profiles.

1.11.E. Unless allowed by the COR, no more than 9 drawings shall be placed in each AutoCAD file.

1.11.F. All drawings shall be placed on their own layout tab in AutoCAD. The layout tab name shall be the drawing number.

1.11.G. Provide applicable shop drawings, RFIs, or other supporting data to show work completed as part of the Record Drawings.

1.12. DRAWING NUMBERS

1.12.A. USIBWC Drawing numbers are shown with the format of #####-###-##. USIBWC's "*Drawing and CAD Standards*" Subsection 4.7.B. explains how the drawing numbers are formatted and how they are revised for Record Drawings.

1.12.B. For drawings with existing USIBWC drawing numbers, revise the last two digits to reflect a record drawing per the above guidance.

1.12.C. For any new drawings created as part of the Record Drawings, including any supplemental data such as shop drawings or RFIs, request a new USIBWC drawing number. The request shall include a reference to which original drawing the supplemental data applies to.

1.12.D. The Contractor shall provide a spreadsheet with the original drawing number, the principal feature, and the sub feature as shown in the border of each drawing.

1. If additional drawing numbers are required at any point, the spreadsheet shall be resubmitted with the new drawing information and the COR will assign additional numbers.

PART 2 - PRODUCTS

2.1. RECORD DRAWINGS

2.1.A. The set of drawings in pdf format shall contain all signatures and stamps.

1. Pdf files shall be configured to allow for high quality printing.
2. Pdfs shall be generated from AutoCAD with a minimum of 600 dpi.
3. Embed all fonts in the pdfs.
4. Pdfs shall be rotated to drawing/sheet orientation.
5. A "set" of drawings includes both the full size and half size drawings.
   a. One pdf file shall be full size (22"x34").
   b. One pdf file shall be half size (11"x17").
6. Pdf files shall allow extraction of sheets.

2.1.B. Drawing Files

1. AutoCAD 2022 Civil 3D or newer shall be used for Record Drawing files.
2. All other references to AutoCAD within this document refer to Civil 3D version.
3. At this time, USIBWC will not accept drawings in Revit.

2.1.C. The set of drawings in AutoCAD (dwg) format shall not contain signatures nor official seals/stamps but shall fully contain all necessary items to access the data in AutoCAD.

1. Files shall follow USIBWC's "*Drawing and CAD Standards*" section entitled "Contractor Drawing Deliverables."
2. All associated topographic, survey, 2D data, 3D data, and cross-referenced files shall be included in this drawing set.
3. Include all shx line type files, ctb pen setting files, etc. required to replicate the drawings shall be included with the drawing set.
4. All data shall exist in model space (AutoCAD model tab).
5. A correctly scaled layout with full border and delineated print area shall be shown in AutoCAD's layout tab.
6. When multiple drawings are in a single AutoCAD file, every drawing shall be on a separate layout tab.
7. All AutoCAD files shall be georeferenced and contain metadata and GIS projection files.
8. Drawing items shall be associated to correct layers.
9. Record Drawing layer names shall be descriptive in nature and shall start with "RD."

2.1.D. All 3D data shall be exported from the AutoCAD file. This includes, but is not limited to: points, surfaces, profiles, cross sections, and boundaries. Appropriate dxf, xml, cvs, etc. files shall be provided for this data.

2.1.E. All 3D data and objects shall be fully available. For the Record Drawings to be accepted by the Government, **ALL** 3D data including points, contours, breaklines, etc. shall be readable with all attached data. In other words, a point shall exist as a 3D point and not as a block or a 2D point.

2.1.F. Record Drawings and completed work may be rejected by the Government until such work is corrected by the Contractor and recertified on the Record Drawings by said Engineer or Land Surveyor.

PART 3 - EXECUTION

3.1. RECORD DRAWINGS

3.1.A. The Contractor shall submit the Record Drawings for review and compliance confirmation after substantial completion.

3.1.B. Review of the Record Drawings by USIBWC will be completed within 21 days. Several submissions of Record Drawings may be required so the Contractor shall plan accordingly.

3.1.C. See Section 01.78.36 1.11. for explanation of substantial completion.

--End of Section--

International Boundary and Water Commission
United States Section

TECHNICAL SPECIFICATIONS
DIVISION 02
EXISTING CONDITIONS

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SECTION 02.01.00
EXISTING CONDITIONS AND FACILITIES

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Measurement and Payment 1
1.5. General 1
1.6. USIBWC Owned Right-of-Way 2
1.7. Survey Markers 2
1.8. Roadways and Appurtenances 2
1.9. Utilities 3
1.10. Trees, Vegetation, and Other Landscape Features 4
1.11. Protection from Elements 4
--End of Section-- 5

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.78.39-Record Drawings

1.3. REFERENCE STANDARDS

1.3.A. Federal Acquisition Regulation (FAR)

1. FAR 52.249-10, Default (Fixed Price Construction)

1.4. MEASUREMENT AND PAYMENT

The work performed by the Contractor under this Section shall not be paid for directly but shall be included in the various Bid Items under this Contract.

1.5. GENERAL

1.5.A. The Contractor shall protect all existing survey markers, piezometers, benchmarks, cross arm stations, base plates, roadways and roadway appurtenances, utilities (underground and above-ground), drainage and irrigation facilities, and trees/vegetation within the right of way or adjacent properties not designated for modification, construction, and/or removal, and shall restore damaged or temporarily relocated utilities, facilities, and trees/vegetation to a condition equal to or better than prior to such damage or temporary relocation, all in accordance with the Contract documents.

1.5.B. The Contractor shall plan and conduct operations to ensure the protection of existing features and ongoing and completed construction. Damages occurring during the course of this construction Contract as a result of the Contractor's actions or negligence shall be repaired by the Contractor at no expense to the Government.

1.5.C. Damage shall be restored to a condition equal to or better than prior to such damage or temporary relocation, all in accordance with the Contract documents.

1.5.D. Analyses, designs, and details associated with the repairs shall be prepared by a compliance confirmed design firm at no expense to the Government. The Contractor shall submit the designs for COR review and shall not begin work until the design has been compliance confirmed.

1.5.E. In some cases, the repair may require an upgrade. If the upgrade is at the request of the Government, then the Contractor shall be responsible for the expense of the design in its entirety including the upgraded features. However, the Government will provide an equitable adjustment in cost to cover the expense of the construction associated with the upgrade.

1.6. USIBWC OWNED RIGHT-OF-WAY

The Contractor shall begin site work once the Notice to Proceed has been issued and preconstruction submittals are complete.

1.7. SURVEY MARKERS

1.7.A. The Contractor shall not destroy, remove, or otherwise disturb any existing survey markers without prior authorization from the COR.

1.7.B. All survey markers, brass caps, or monuments discovered during construction, whether noted on the Contract Drawings or not, shall be surveyed to ensure that they can be accurately restored after construction activities have been completed.

1.7.C. The Contractor shall be required to restore survey markers noted on the Contract Drawings or visible above ground that are disturbed during construction operations. Restoration of the survey markers shall be in accordance with USIBWC Drawing 26369.

1.8. ROADWAYS AND APPURTENANCES

1.8.A. Signs and Markers
The Contractor shall not destroy, remove, or otherwise disturb any existing roadway signs or markers, unless otherwise specified in the Contract Drawings. The Contractor shall accurately restore or replace any existing roadway signs or markers immediately and as approved by the owner of the roadway.

1.8.B. Pavement or Paved Structures
All paved areas cut or damaged during construction shall be replaced with similar materials of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract documents or in the requirements of the owner of the pavement of paved structures. The pavement restoration requirement to match existing sections shall apply to all components of existing sections, including sub-base, base, and pavement. Temporary and permanent pavement shall conform to the requirements of the affected pavement. Pavements which are subject to partial removal shall be neatly saw-cut in straight lines.

1. Temporary Resurfacing
Wherever required by the public authorities having jurisdiction, the Contractor shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.

2. Permanent Resurfacing
In order to obtain a satisfactory junction with adjacent surfaces, the Contractor shall saw-cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw-cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

1.8.C. Sidewalks or Private Roads
Wherever sidewalks or private roads have been removed for purposes of construction, the Contractor shall place suitable temporary sidewalks or roadways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions. If no such period of time is so fixed, the Contractor shall maintain said temporary sidewalks or roadways until the final restoration thereof has been made.

1.9. UTILITIES

1.9.A. The Contractors shall contact the state's 811 (www.texas811.org) at least 48 hours in advance of any construction work to allow utility operator to check and mark locations of existing utilities within the project limits.

1.9.B. The Contractor is required to hire a utility locator to survey the project limits to locate any utilities not indicated in the Contract Drawings. The Contractor shall immediately notify the COR of any located utilities not indicated in the Contract Drawings; immediate verbal notification is to be followed-up with written notification to the COR within 48 hours.

1.9.C. Utilities to be Moved

1. In case it shall be necessary to move the property of any public utility or franchise holder, the Contractor shall coordinate the move with such utility company or franchise holder.
2. Only upon failure of the utility company or franchise holder to abide by the Contractor's request will the Government become involved to require the relocation of the utilities.
3. When utility lines that are to be removed are encountered within the area of operations, the Contractor shall notify the Government a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.

1.9.D. Utilities to be Removed

1. Where the proper completion of the work requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the Contractor shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the Government and the owner of the facility.
2. In all cases of such temporary removal or relocation, restoration to the former location shall be accomplished by the Contractor in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.
3. Abandoned utilities shall be removed within the area of construction.

1.9.E. Costs of Repairs
Costs of repairing utilities, even when damage is not due to failure of the Contractor to exercise reasonable care in locating and identifying utilities, will be the responsibility of the Contractor.

1. Costs include equipment on the project which was actually working on that portion of the work which was interrupted or idled by repair or relocation of such utility facilities and which was necessarily idled during such work.

1.9.F. Compliance Confirmation of Repairs
All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement owner before being concealed by backfill or other work.

1.9.G. Maintaining in Service
Unless indicated otherwise, oil and gasoline pipelines, power and telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles and overhead power, and communication wires and cables encountered along the line of the work shall remain continuously in service during all the operations under the Contract.

1.9.H. Record Drawings
All found or relocated utilities shall be included in the Record Drawings in accordance with Section 01.78.39.

1.10. TREES, VEGETATION, AND OTHER LANDSCAPE FEATURES

1.10.A. Vegetation Protection

Unless otherwise noted for removal in these Technical Specifications or within the Contract Drawings:

1. The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within the right-of-way and project limits and shall not trim or remove any trees unless such trees are noted on the Contract Drawings to be removed or have been compliance confirmed for removal by the COR.
2. Existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the Contractor or a certified tree company under permit from the jurisdictional agency and/or the Government.
3. Vegetated areas damaged during construction shall be repaired to match the preconstruction condition to the satisfaction of the landowner and the Government.

1.10.B. To protect trees, unless otherwise shown on the Contract Drawings, the Contractor shall not drive or disturb the area under the tree branches (i.e. within the dripline).

1.11. PROTECTION FROM ELEMENTS

1.11.A. The work area and Project-Specific Locations may be subject to flooding and the Contractor shall be responsible for protecting the work, existing conditions, and adjacent properties from floods and from any flood damage during the course of construction and prior to acceptance of the work by the Government.

1.11.B. Until final written acceptance of the project improvements by the CO, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. Protection of the worksite shall be in accordance with the Contract and Federal Acquisition Regulations (FAR). The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the project including material sites occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work as otherwise specified herein.

1.11.C. Flood Caused Suspension of Work

1. In the case of suspension of work from any cause whatsoever, the Contractor shall be responsible for the project and shall take such precautions as shall be necessary to prevent damage to the project, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities at no additional cost to the USIBWC.
2. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under the Contract and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

1.11.D. Damage from the Elements

1. All damage and loss (whether caused by fire, flood, or any other casualty or happening) to work to be constructed or performed pursuant to the Contract (whether or not covered by partial payments made by the Government) shall be at the risk of the Contractor until final acceptance of the work by the Government, and no such damage or loss shall relieve the Contractor of, or in any way affect, the obligations to complete and deliver the work in accordance with the Contract requirements, irrespective of any insurance carried by the Contractor.
2. The Contractor shall assume full responsibility and expenses for removing, protecting, and returning to the worksite, any and all equipment under their care which might be endangered by said fire, flood, or happening.

3. Repair Work
   a. Repair of work shall be pursuant to the original Contract requirements.
   b. Such repair work shall consist of restoring the in-place construction to the same state of completion to which such work had advanced prior to the occurrence.
   c. Any re-excavation, replacement of embankment, or other work made necessary by damage from floods, hurricanes, storms, or water of whatever source or quantity during the course of construction and until final acceptance by the Government, shall be performed by the Contractor at their expense.
   d. The USIBWC reserves the right to make changes in the Contract Drawings and Technical Specifications applicable to the portions of the work to be repaired and if such changes increase the cost of repairing the damage over the USIBWC's estimate of the cost of repair without the changes, the Contractor shall be paid for such increased costs and the increased cost amount shall not be considered in determining the cost of repair.
   e. Nothing in this Section shall be construed to relieve the Contractor of full responsibility for the risk of injury, loss, or damage to materials not yet incorporated in the work and to materials, tools, and equipment used to perform the work, or to relieve the Contractor of responsibility required under other Sections of the Contract documents.
   f. The provisions of this Section shall not be applicable to the repair of damage caused by an occurrence to any portion of the work accepted by the USIBWC.
4. For any interference or delay in operations which might be caused by such incident(s).
   a. Weather caused delays shall be reviewed under Contract clause Time Extensions for Unusually Severe Weather.
   b. Delays caused by fire, flood, unusually severe weather, or Acts of God shall be reviewed under FAR 52.249-10, Default (Fixed Price Construction) if the Government is notified within the required timeframe detailed in FAR 52.249-10(b)(2).
   c. All other interference and delays due to damage or loss are the responsibility of the Contractor.

--End of Section--

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SECTION 02.26.26
LEAD ASSESSMENT

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Submittals 1
1.4. Measurement and Payment 1
1.5. General 2
1.6. Definitions 2
1.7. Lead Laboratory Qualifications 2
Part 2 - Execution 2
2.1. Testing 2
--End of Section-- 3

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.43.26-Testing and Inspection Agencies

1.3. SUBMITTALS

1.3.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.3.B. Required submittals in this Section include:

1. Lead Test Results
   a. Total lead levels
   b. TCLP levels
2. Environmental Testing Laboratory
   Compliance confirmation of environmental testing facilities shall be based on compliance with Section 01.43.26, and no work requiring testing will be permitted until the facilities have been compliance confirmed by the COR.

1.3.C. If this information has already been submitted for other work, it does not need to be resubmitted.

1.4. MEASUREMENT AND PAYMENT

1.4.A. Measurement
This Bid Item will be paid on the lump sum basis and no activity will be measured in the field for the purpose of payment for this individual activity. Progress payments for items listed in the Schedule of Values are based on the percentage complete, as determined by the COR. All costs in connection therewith shall be included in the Schedule of Values for the items to which the work is incidental thereto.

1.4.B. Payment

1. This Bid Item will be paid for based on the lump sum price identified in Section B of the Contract Provisions identified as "**Lead Assessment**."

2. Payment constitutes full compensation for furnishing, delivering, handling, and/or installing all material, labor, services, testing, tools, equipment, and for other incidental work necessary to meet Contract requirements applicable. The Contractor will not be allowed payment for rejected items.
3. The progress payments are made to benefit the Contractor. These payments are made based upon preliminary field inspections, and preliminary testing data. Progress payments do not constitute acceptance of any portion of the work and do not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment.

1.4.C. If lead remediation items is required, those costs shall be detailed in Section 02.83.00.

1.5. GENERAL

1.5.A. When Amistad Dam was original constructed in 1969, lead-based paint (LBP) was used. It is unknown how many times since then that the radial gates have been repainted. The level of lead in the LBP is also unknown.

1.5.B. The Contractor is required to test the existing paint on the radial gates and on all appurtenances that may have coating/paint removed to determine if LBP exists and its levels.

1.5.C. If the lead assessment shows lead levels sufficient to require remediation, see Section 02.83.00.

1.6. DEFINITIONS

1.6.A. Lead-Based Paint (LBP)
Paint with total lead levels equal to or exceeding 1 mg/cm^2 as measured by x-ray fluorescence (XRF) or exceeding 0.5% by weight (5,000 µg/g, 5,000 ppm, 5,000 mg/l, or 5,000 mg/kg) as measured by laboratory analysis.

1.6.B. Total Lead Levels
Total lead levels in paint or any other material shall be determined by an EPA approved method for metals. A TCLP does not determine total lead levels.

1.6.C. Toxicity Characteristic Leaching Procedure (TCLP)
TCLP is used to determine disposal characteristics of lead containing materials. TCLPs shall be performed using EPA Method 1311 (SW-846).

1.7. LEAD LABORATORY QUALIFICATIONS

1.7.A. All laboratories shall meet the requirements of Section 01.43.26.

1.7.B. Additionally, any laboratory used to process the TCLP testing to determine the specific lead concentration for disposal shall be accredited with EPA's National Lead Laboratory Accreditation Program (NLLAP). A list of currently accredited laboratories is available at: www.epa.gov/lead/national-lead-laboratory-accreditation-program-list.

PART 2 - EXECUTION

2.1. TESTING

2.1.A. The Contractor shall perform at least 1 total lead test on a composite sample comprised of between 100 and 300 grams of representative lead containing paint samples. This test shall not include any other debris or materials except those containing lead.

1. The results of this test shall be used to classify whether the material is LBP and to ensure that the correct safety requirements are being met.

2.1.B. The Contractor shall perform at least 1 TCLP on a composite sample comprised of between 100 and 300 grams of representative lead containing samples. This test shall not include any other debris or materials except those containing lead.

1. An additional test may be performed of the total waste stream, but the two tests shall be clearly identified as to the material being tested.

2.1.C. All draft and official test results shall be provided to COR.

--End of Section--

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SECTION 02.83.00
LEAD REMEDIATION AND DISPOSAL

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 1
1.5. Measurement and Payment 2
1.6. General 2
1.7. Definitions 2
1.8. Texas Commission on Environmental Quality (TCEQ) 2
1.9. Recycling LBP 3
1.10. Lead-Based Paint Removal Plan 3
1.11. Lead-Based Paint Management/Disposal Plan 4
Part 2 - Execution 4
2.1. Lead Removal Field Tests 4
2.2. Handling and Storage of Lead-Based Paint 4
2.3. Disposal 5
--End of Section-- 5

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.35.23-Safety

1.2.C. Section 01.74.19-Construction Waste Management and Disposal

1.2.D. Section 02.26.26-Lead Assessment

1.3. REFERENCE STANDARDS

1.3.A. Code of Federal Regulations (CFR) / Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1910, Occupational Safety and Health Standards
2. 29 CFR 1926, Construction Standards

1.3.B. Texas Administrative Code (TAC)

1. Chapter 335 - Industrial Solid Waste and Municipal Hazardous Waste

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Lead-Based Paint Removal Plan
2. Lead-Based Paint Remover Qualifications

3. Lead-Based Paint Management/Disposal Plan
4. Lead Removal Field Test Reports
5. Disposal Records

1.5. MEASUREMENT AND PAYMENT

1.5.A. Measurement
This Bid Item will be paid on the lump sum basis and no activity will be measured in the field for the purpose of payment for this individual activity. Measurement of cost components considered under this Section is based upon percentage complete of lead remediation and disposal per these Technical Specifications and the Contract Drawings.

1.5.B. Payment Individual CLINS

1. This Bid Item will be paid for based on the lump sum bid price identified in Section B of the Contract Provisions identified as "**Lead Removal and Disposal**."
2. Payment constitutes full compensation for furnishing, delivering, handling, and/or installing all material, labor, services, testing, tools, equipment, and for other incidental work necessary to meet Contract requirements applicable. The Contractor will not be allowed payment for rejected items.
3. The progress payments are made to benefit the Contractor. These Payments are made based upon preliminary field inspections, preliminary testing data, and preliminary disposal paperwork. Progress payments do not constitute acceptance of any portion of the work and do not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment.

1.6. GENERAL

1.6.A. If lead testing in Section 02.26.26 indicates that lead must be remediated, the items in this Section shall apply. Remediation is required if lead levels are greater than 5 mg/l or if items containing lead are to be recycled.

1. Items containing lead of lower levels may also be remediated to allow disposal at a lower TCEQ industrial waste class.

1.6.B. All LBP remediation or recycling shall meet TCEQ and EPA requirements.

1.6.C. Contractors shall note that the testing requirements within these Technical Specifications shall be met regardless of TCEQ or EPA testing requirements. For example, if TCEQ requires Test A while these Technical Specifications require Test B, both tests need to be performed.

1.7. DEFINITIONS

1.7.A. TCEQ Class 3 Industrial Waste
TCLP lead levels less than 0.05 mg/l (50 ppb). See 30 TAC 335.507.

1.7.B. TCEQ Class 2 Industrial Waste
TCLP lead levels greater than 0.05 mg/l (50 ppb) but less than 1.5 mg/l (1.5 ppm). See 30 TAC 335.506.

1.7.C. TCEQ Class 1 Industrial Waste
TCLP lead levels greater than 1.5 mg/l (1.5 ppm) but less than 5 mg/l (5 ppm). See 30 TAC 335.505.

1.7.D. TCEQ Hazardous Waste
TCLP lead levels greater than 5 mg/l (5 ppm). See 30 TAC 335.504.

1.8. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)

1.8.A. The TCEQ requires that generators of waste classify their waste prior to shipment to a municipal landfill. With regard to LBP, the waste determination process requires that a representative sample be collected from the material to be disposed of and analyzed by TCLP to determine the leachable lead concentration

of the waste material. This process can be performed before or after demolition activities, provided that the materials which will be disposed of are sampled in a manner that is representative of the waste.

1.8.B. See lead testing requirements in Section 02.26.26.

1.9. RECYCLING LBP

1.9.A. TCEQ allows recycling of LBP material. Contractor may choose to have steel painted with LBP recycled as long as the storage, transportation, and recycling fully meets TCEQ requirements.

1. Provide copies of all environmental/operating permits allowing the recycler to accept LBP materials.
2. Provide copies of TCEQ Form 0525 as well as any others produced in tracking the recycling process.

1.10. LEAD-BASED PAINT REMOVAL PLAN

1.10.A. Contractor shall submit a job specific LBP Removal Plan detailing removal equipment, methodology, safety requirements, personnel exposure monitoring and protection, dust control, containment procedures, and waste collection. Appropriate documentation of personnel training and fit testing for respiratory protection shall be included in the Plan if respiratory protection is specified.

1. If LBP materials will be recycled instead of remediated, the LBP Removal Plan shall substitute recycling activities for remediation activities. Safety concerns still apply.

1.10.B. The Contractor shall identify how the LBP will be removed, making sure to address environmental and personnel exposure risks. If the Contractor will have a subcontractor who specializes in LBP removal handle this, the subcontractor shall be licensed by TCEQ to provide lead removal services.

1.10.C. The Contractor shall provide adequate facilities for decontamination of equipment and personnel at the end of each shift or whenever equipment and personnel leave the controlled abrasive blasting area.

1.10.D. Disposable PPE, tools, and materials, along with any wash water, dust, solids, and sludge shall be placed into approved containers and staged for disposal. All containers shall be properly labeled, closed, and inspected daily prior to disposal and located at the Contractor's identified storage area.

1.10.E. The Contractor shall be required to comply with all aspects of OSHA 29 CFR 1910.1025 and 1926.62 with regards to disturbance of these materials when performing their work. It shall be the sole responsibility of the Contractor to comply with OSHA including all costs associated with, but not limited to:

1. Development and implementation of a Lead Compliance Program.
2. Development and implementation of a Respiratory Program.
3. Development and implementation of a Medical Monitoring Program.
4. Development and implementation of a Hazard Communication Program.
5. Performance of any lead testing required on the Project.
6. Performance of any Negative Exposure Assessments required.
7. Providing all medical examinations required.
8. Providing all equipment required (Including appropriate PPE).
9. Providing all engineering controls and associated work practices.
10. Appropriately disposing of all paint material and associated debris in accordance with the Contract documents.

1.10.F. The Contractor shall thoroughly address lead exposure in their accident prevention plan in Section 01.35.23.

1.11. LEAD-BASED PAINT MANAGEMENT/DISPOSAL PLAN

1.11.A. A LBP Management/Disposal Plan shall be developed to reduce the potential for releases of lead dust and debris until the identified LBP materials are tested and properly removed. Debris generated from structures at the subject facility containing LBP should be managed using the following guidelines until transported off site for proper disposal:

1. Place paint chips, dust, and dirt and rubble in 6-mil polyethylene disposal bags.
2. Store larger LBP debris pieces in an area where LBP will not be disturbed. All LBP debris generated during the project shall be segregated until disposal can be arranged
3. Confirm permitting status and acceptance criteria of local landfill facilities and/or recyclers for LBP debris.

1.11.B. The LBP Management/Disposal Plan shall document the proposed methods of disposal and/or recycling of all materials containing lead.

PART 2 - EXECUTION

2.1. LEAD REMOVAL FIELD TESTS

2.1.A. Take air monitoring samples during lead removal.

2.1.B. Submit results of air monitoring samples. Notify COR immediately of exposure to lead at or in excess of the action level of 30 micrograms per cubic meter of air outside the lead control area.

2.2. HANDLING AND STORAGE OF LEAD-BASED PAINT

2.2.A. Cleanup
Maintain surfaces of the lead control area free of accumulations of paint chips and dust. Restrict the spread of dust and debris; keep waste from being distributed over the work area. Do not dry sweep or use compressed air to clean up the area. At the end of each shift and when the paint removal operation has been completed, clean the area of visible lead paint contamination by vacuuming with a HEPA filtered vacuum cleaner and wet mopping the area.

2.2.B. Each person handling lead paint-containing waste material (LPWM) shall seal all LPWM in leak-tight containers and label the containers.

2.2.C. Appropriate containers and procedures shall be used to prevent all breakage, rupture, or leakage during loading, shipping, transportation, and storage of LPWM.

2.2.D. Carefully load containerized waste in fully enclosed dumpsters, trucks, or other appropriate vehicles for transport. Exercise care before and during transport to ensure that no unauthorized persons have access to the material.

2.2.E. During loading and unloading, mark dumpsters, receptacles and vehicles with a sign complying with requirements of Federal and State of Texas regulations.

2.2.F. Storage is permitted only at locations approved in advance. Temporary storage shall not exceed a time period of more than 5 working days following the completion of the abatement action.

2.2.G. There shall be no discharge of visible emissions during the collection, processing, packaging, or transportation of any LPWM.

2.3. DISPOSAL

2.3.A. Based upon the results of the TCLP test performed in Section 02.26.26, the lead containing material may be disposed of as followed:

1. If the results of the TCLP tests are below 1.5 mg/l and are outside of the TCLP's inconclusive range, no further action shall be required. All material may be disposed of and recycled per Section 01.74.19 as Class 2 or Class 3 Industrial Waste.
2. If the results of the TCLP indicate lead levels greater than 1.5 mg/l but less than 5 mg/l, the Contractor shall determine an appropriate method of disposal per Section 01.74.19. The Contractor may remove the LBP and then recycle the metal; otherwise, they may dispose of all of the material together. The Contractor is not required to recycle the metal.
3. If the results of the TCLP indicate lead levels greater than 5 mg/l, the Contractor shall provide a method for removal of and proper disposal of all LBP. After removal of the LBP, the metal can then be recycled per Section 01.74.19.

2.3.B. Please note that any additional testing required by the landfill or waste facility to classify the material for disposal is in addition to the testing required within these Technical Specifications.

2.3.C. Disposal Documentation

1. Disposal records for all material shall be provided to COR.
2. Submit written evidence that the hazardous waste treatment, storage, or disposal facility is approved for lead disposal by the EPA and state or local regulatory agencies. Submit one copy of the completed manifest, signed and dated by the initial transporter in accordance with 40 CFR 262.
3. Records of LBP removal/LPWM generator, storage, transportation, and disposal shall be provided to the COR.
4. TCEQ forms can be found at www.tceq.texas.gov/cgi-bin/comm_exec/forms.pl.

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International Boundary and Water Commission
United States Section

TECHNICAL SPECIFICATIONS
DIVISION 05
METAL

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SECTION 05.05.23
WELDING

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. Record Documents 2
1.6. Measurement and Payment 2
1.7. General 2
1.8. Welding Procedure Specifications (WPS). 3
1.9. Welder Qualification 4
1.10. Nondestructive Tester Qualifications 5
Part 2 - Products 6
2.1. Welding Equipment and Materials 6
Part 3 - Execution 6
3.1. Procedure Qualification 6
3.2. Workmanship. 6
3.3. Stud Welding 6
3.4. Weld Quality 7
3.5. Nondestructive Examination 8
3.6. Acceptability of Welds 8
3.7. Corrections 9
3.8. Record Drawings 9
--End of Section-- 9

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.78.39-Record Drawings

1.3. REFERENCE STANDARDS

1.3.A. American Society of Nondestructive Testing (ASNT)

1. ASNT/ANSI CP-189-2024 Standard for Qualification and Certification of Nondestructive Testing Personnel

1.3.B. ASTM International (ASTM)

1. ASTM E165-23 Standard Practice for Liquid Penetrant Testing for General Industry
2. ASTM E709-21 Standard Guide for Magnetic Particle Testing

1.3.C. American Welding Society (AWS)

1. AWS A5.4 2012(R2022) Specification for Stainless Steel Electrodes for Shielded Metal Arc Welding
2. AWS A5.9 2022 Specification for Bare Stainless Steel Welding Electrodes and Rods

3. AWS A5.10 2023 Welding Consumables–Wire Electrodes, Wires and Rods for Welding of Aluminum and Aluminum-Alloys–Classification
4. AWS D1.1:2020 Structural Welding Code-Steel, including Errata June 28, 2023
5. AWS D1.2:2014 Structural Welding Code-Aluminum, including Errata May 20, 2020
6. AWS D1.3:2018 Structural Welding Code-Sheet Steel, including Errata April 21, 2022
7. AWS D1.4:2018-AMD1 Structural Welding Code-Steel Reinforcing Bars, including Errata September 7, 2020
8. AWS/AASHTO D1.5:2020 Bridge Welding Code, including Errata January 11, 2023
9. AWS D1.6:2017-AMD1 Structural Welding Code-Stainless Steel, including Errata July 21, 2021
10. AWS D1.7:2010 Guide for Strengthening and Repairing Existing Structures
11. AWS QC1:2016 -AMD1 Standard for AWS Certification of Welding Inspectors

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Welding Procedure Specifications (WPS)
2. Welder Certifications
   a. A copy of an AWS welder certification card.
   b. Miscellaneous Weld Qualification Test witnessed by the COR.

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. Weld Inspection Tests
   Provide all nondestructive, visual, and coupon test results to the COR.

1.6. MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for items specified in this Section. All costs in connection therewith shall be included in the Contract prices for the items to which the work is incidental thereto.

1.7. GENERAL

1.7.A. The Contractor shall shop or field weld metal members as required to complete project.

1.7.B. Welds shall meet or exceed the original welding requirements in the Amistad construction documents.

1.7.C. Welding to or on structural steel shall be in accordance with AWS D1.1. Welding of reinforcing steel shall conform to AWS D1.4. Welding of stainless steel shall conform to AWS D1.6. Welding of aluminum shall conform to AWS D1.2. Most references in this Section only call out items in AWS D1.1. When materials other than steel are being welded, the Contractor shall assume that the reference is to the applicable AWS standards in this paragraph instead.

1.7.D. Welding, including tack welding, will not be permitted on embedded metals within 2 feet of the surface of the concrete.

1.8. WELDING PROCEDURE SPECIFICATIONS (WPS).

1.8.A. When welding on any load bearing structure or water control gate, a WPS shall be provided with sufficient details that any competent person will be able to apply the information and produce a weld of acceptable quality. The WPS shall include:

1. Procedure number.
2. Process type.
3. Consumable size, type, and full codification.
4. Consumable baking requirement if applicable
5. Parent material grade and spec.
6. Thickness range.
7. Plate or pipe, diameter range.
8. Welding Position.
9. Joint Fit Up, Preparation, Cleaning, Dimensions etc.
10. Backing Strip, Back Gouging information.
11. Pre-Heat (minimum temp and method).
12. Interpass, if required (maximum temperature recorded).
13. Post Weld Heat Treatment, if required (time and temp).
14. Welding Technique (weaving, maximum run width etc.).
15. Arc Energy Limits shall be stated if impact tests are required or if the material being welded is sensitive to heat input.
16. Additionally, provide these details dependent upon the type of weld:
    a. MMA
        (1) Welding Current
        (2) Type of Welding Current
    b. TIG
        (1) Welding Current
        (2) Type of Welding Current
        (3) Arc Voltage
        (4) Pulse Parameters (pulse time, peak and background current)
        (5) Shielding Gas (composition and flow rate)
        (6) Purge Gas (composition and flow rate)
        (7) Tungsten Electrode (diameter and type)
        (8) Nozzle Diameter
    c. MIG, MAG, or FCAW
        (1) Welding Current
        (2) Type of Welding Current
        (3) Arc Voltage
        (4) Pulse Parameters (pulse time, peak and background current)
        (5) Shielding Gas (composition and flow rate)
        (6) Purge Gas (composition and flow rate)
        (7) Nozzle Diameter
        (8) Wind Shelter Description, if required
    d. SAW
        (1) Welding Current
        (2) Type of Welding Current
        (3) Arc Voltage
        (4) Wire Configuration

(5) Type of Flux (codification and brand name)
(6) Nozzle Standoff Distance

1.9. WELDER QUALIFICATION

1.9.A. Welders shall hold a current AWS certification prior to welding on any load bearing structure or water control gate. Ensure that the certifications match the material and conditions to be welded on the project. The Contractor shall certify by name to the COR the welders and welding operators so qualified, including the date of qualification, certificates, and code and procedures under which qualified. All expenses in connection with qualification and requalification shall be borne by the Contractor.

1.9.B. Welder, Welding Operator, and Tacker Qualification
Each welder, welding operator, and tacker assigned to work on this Contract shall be qualified in accordance with the applicable requirements of AWS D1.1 and as specified in this Section. Welders, welding operators, and tackers who make acceptable procedure qualification test welds will be considered qualified for the welding procedure used.

1. Certificates
Provide AWS certification papers for each welder for each welding process to be used before welding, except for miscellaneous welds described in Miscellaneous Welding Applications.
   a. Welders shall have a valid, current AWS certification.
   b. Before assigning any welder, welding operator, or tacker to work under this Contract, submit the names of the welders, welding operators, and tackers to be employed, and certification that each individual is qualified as specified.
   c. State in the certification the type of welding and positions for which the welder, welding operator, or tacker is qualified, the code and procedure under which the individual is qualified, the date qualified, and the name of the firm and person certifying the qualification tests.
2. Even with qualifying AWS certification, the COR may remove welders from the project upon discovery of sloppy, incomplete, or poor welds.

1.9.C. Certified Steel Structures Welder Abbreviations

1. Code
   a. API 1104 Welding of Pipelines and Related Facilities
   b. AWS D1.1 Structural Welding Code Steel
   c. AWS D1.2 Structural Welding Code-Aluminum
   d. AWS D1.4 Structural Welding Code Reinforcing Steel
   e. AWS D1.5 Bridge Welding Code
   f. AWS D1.6 Structural Welding Code-Stainless Steel
   g. AWS D14.3 Specification for Welding Earthmoving, Construction and Agricultural Equipment
2. Filler Material
   a. ER309 Stainless Steel TIG Welding Rod
   b. E7018 Low-Hydrogen Iron Powder Arc Welding Electrodes
   c. ER70S Mild Steel TIG Welding Rod
   d. E71T Carbon-Steel Flux-Cored Welding Wire
3. Process
   a. SMAW Shielded Metal Arc Welding
   b. GMAW Gas Metal Arc Welding
   c. GMAW-S Gas Metal Arc Welding-Short Circuit
   d. FCAW Flux Cored Arc Welding
   e. GTAW Gas Tungsten Arc Welding

f. SAW Submerged Arc Welding
g. BZ Brazing

4. Base Metal
The nomenclature listed here shall be the ASTM listed designation of the metal to be welded.

5. Position Qualified
a. 1G Groove Weld, Flat
b. 2G Groove Weld, Horizontal
c. 3G Groove Weld, Vertical
d. 4G Groove Weld, Overhead
e. 5G Groove Weld, Pipe Vertical
f. 6G Groove Weld, Pipe 45° Vertical
g. 1F Fillet Weld, Flat
h. 2F Fillet Weld, Horizontal
i. 3F Fillet Weld, Vertical
j. 4F Fillet Weld, Overhead
k. V Vertical Progression Up
l. D Vertical Progression Down
m. A All

6. Thickness
a. U Unlimited (⅛" to unlimited)
b. L Limited
c. XX-XX Range in sheet gauges
d. x/x Thickness in fractions of an inch
e. SCH Schedule listing for pipe thickness
f. WB With Backing
g. WOB Without Backing

7. Before making non-miscellaneous welds on structural steel, a welder must hold certifications for plates of unlimited thickness in the vertical (3G) and overhead (4G) positions.

8. For SMAW, a welder certified using EXX18 electrodes is qualified to weld with all compliance confirmed SMAW electrodes up to E90XX to join metals with a maximum specified yield strength of 65 kips per second.

1.10. NONDESTRUCTIVE TESTER QUALIFICATIONS

1.10.A. Nondestructive (NDT) testers shall be fully qualified and possess the skills to set up equipment, conduct tests, and to interpret, evaluate, and document the results.

1.10.B. Testers shall be certified in accordance with ASNT CP-189 as Level II or Level III in the given NDT test method. Test methods include:

1. Magnetic Particle Testing (MT)
2. Liquid Penetrant Testing (PT)
3. Radiographic Testing (RT)
4. Ultrasonic Testing (UT)
5. Visual and Optical Testing (VT)
6. Electromagnetic Testing (ET)

1.10.C. Upon COR approval, Level I technicians may be used onsite if they are qualified and are working under the direct supervision of a Level II individual.

1.10.D. Organizational Changes.

1. The Contractor shall obtain the COR's acceptance before replacing any NDT technicians. Requests shall include the names, qualifications, duties, and responsibilities of each proposed replacement.
2. The Government reserves the right to require the Contractor to make changes in the NDT staff, including removal of personnel, as necessary, to obtain the quality specified.

PART 2 - PRODUCTS

2.1. WELDING EQUIPMENT AND MATERIALS

2.1.A. Provide all welding equipment, electrodes, welding wire, and fluxes capable of producing satisfactory welds when used by a qualified welder or welding operator performing qualified welding procedures.

2.1.B. Provide welding equipment meeting the requirements of the compliance confirmed Welding Procedure Specification (WPS), if required, and capable of making consistent high-quality welds.

2.1.C. All items of welding equipment shall conform to the requirements of AWS D1.1.

PART 3 - EXECUTION

3.1. PROCEDURE QUALIFICATION

3.1.A. The Contractor shall use the proper classification and size of electrode, arc length, voltage, and amperage for the thickness of the material, type of groove, welding positions and other circumstances of the work.

3.1.B. Submit WPS for compliance confirmation before welding any load bearing structure or water control gate.

3.2. WORKMANSHIP.

3.2.A. Preparation of Base Metal
Prior to welding, the Contractor shall inspect surfaces to be welded to assure compliance with AWS D1.1, Sections 5.15 through 5.17, and 5.19.

3.2.B. Temporary Welds
Temporary welds required for fabrication and erection shall be made under the controlled conditions prescribed herein for permanent work. All temporary welds shall be made using low-hydrogen welding electrodes and by welders qualified for permanent work as specified elsewhere in these Sections. The preheating furnished for temporary welds shall be as required by AWS D1.1 for permanent welds, except that the minimum temperature shall be 120°F in any case. In making temporary welds, arcs shall not be struck in other than weld locations. Each temporary weld shall be removed after serving its purpose and ground flush with adjacent surfaces.

3.2.C. Tack Welds
Tacks welds that are to be incorporated into the permanent work shall be subject to the same quality requirements as the permanent welds. Preheating shall be performed as specified above for temporary welds. Such tack welds shall be cleaned and fused thoroughly with the permanent welds. Multiple-pass tack welds shall have cascaded ends. Defective tack welds shall be removed before permanent welding.

3.2.D. Oxygen Cutting
In all oxygen cutting, flame shall be so adjusted and manipulated as to avoid cutting beyond the prescribed lines. Cut surfaces and edges shall be left free of slag.

3.3. STUD WELDING

3.3.A. Stud welding, unless otherwise specified shall conform to the applicable provisions of Section 7 of AWS D1.1.

3.3.B. Stud Materials
The type, size and length of studs shall be as indicated on the Contract Drawings. The Contractor shall furnish for compliance confirmation the manufacturer's certified test reports and certification that the studs conform to the applicable requirements of AWS D1.1, Subsections 7.2 and 7.3.

3.3.C. Stud Base Application Qualification
As a condition of compliance confirmation, the Contractor shall furnish, a certified report giving data, procedures and results of tests performed in accordance with the provisions of Article 7.4 of AWS D1.1. The test specimens shall be prepared using suitable specimen plates of the same base metal to which the studs are to be welded.

3.3.D. Workmanship
The studs shall be welded in accordance with the provisions of Article 7.4 of AWS D1.1. Studs on which a full 360° weld fillet is not obtained may, at the option of the Contractor, be repaired by adding a 3/16 inch fillet, using shielded metal arc process with low-hydrogen welding electrodes. If the reduction of the length of studs becomes less than normal as they are welded, welding shall be stopped immediately and not resumed until the cause has been corrected.

3.3.E. Inspection

1. The welding of stud connectors will be subject to visual inspection by the Government's Inspector.
2. Each stud connector that does not show a full 360° weld fillet, that has been repaired by welding, or the reduction in length due to welding is less than normal shall be tested in accordance with the requirements for testing.

3.3.F. Testing

1. Prior to starting welding operation and at the beginning of each day's operation, two stud connectors shall be welded in the same general position (flat, vertical, overhead, sloping) to a separate piece of material of similar thickness and composition as the member to which the studs are to be welded. After being allowed to cool, these studs shall be tested by bending to an angle of 30° by striking the stud with a hammer. If failure occurs in the weld zone of either stud, the procedure shall be corrected and two successive studs successfully welded and tested before any studs are welded to the member.
2. The foregoing testing shall be performed after any change in the welding procedure. If failure occurs in the stud shank, an investigation shall be made to ascertain and correct the cause before further welds are made.
3. In addition to the foregoing tests, at least one stud in every 100 shall be struck with a hammer and bent to an angle of 15°, or if threaded, shall be torque tested with a calibrated torque wrench as indicated in Figure 7.3 of AWS D1.1. If the stud fails, two more of the existing studs shall be bent or torque tested. If either of these two studs fails, all of the studs represented by the tests shall be rejected.
4. Studs under testing that crack either in the weld, the base metal, or the shank shall be rejected and replaced by the Contractor at no additional cost to the Government.

3.4. WELD QUALITY

3.4.A. Provide welds that are sound throughout with no cracks in the weld metal or weld pass.

3.4.B. Completely fuse the weld metal and the base metal and each subsequent pass.

3.4.C. Keep welds free from overlap and keep the base metal free from undercut more than 1/100 inch deep when the direction of undercut is transverse to the primary stress in the part that is undercut.

3.4.D. Fill all craters to the full typical section of the welds.

3.5. NONDESTRUCTIVE EXAMINATION

3.5.A. The nondestructive (NDT) examination of welds shall be performed as designated and/or described in the sections of these Technical Specifications covering the particular items of work.

3.5.B. Testing Agency
Certified Welding Inspectors (CWI) shall be qualified and certified in accordance with the provisions of AWS QC1. The laboratory and all personal performing nondestructive testing shall be qualified in accordance with ASNT CP-189. Only individuals qualified for NDT Level II or individuals qualified for Level I and working under the direct supervision of a Level II shall perform nondestructive testing. Level III NDT Inspectors shall possess a currently valid ASNT Level III certificate in each of the processes they are qualifying inspectors to. Copies of the certifications, including the Level III NDT Technician that certified the Level I and Level II Technicians shall be included in the submittals.

3.5.C. Examination Procedures

1. Ultrasonic Testing
   Making, evaluating, and reporting ultrasonic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part F. A record shall be made of each weld tested.
2. Radiographic Testing
   Making, evaluating, and reporting radiographic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part E. Only film types designated as "fine grain" or "extra fine" shall be employed.
3. Magnetic Particle Inspection
   Magnetic particle inspection of welds shall conform to the applicable provisions of ASTM E709 and in addition all magnetic particle inspections of welds shall be made using the Wet Contrasting Black on White Method.
4. Dye Penetrant Inspection
   Dye penetrant inspection of welds shall conform to the applicable provisions of ASTM E165.

3.6. ACCEPTABILITY OF WELDS

3.6.A. Welds shall be unacceptable if shown to have defects prohibited by AWS D1.1, Section 6, Part C.

1. Visual and magnetic particle testing acceptance criteria shall be for the applicable criteria for either "Cyclically Loaded Nontubular Connections" or "Tubular Connections" per AWS D1.1, Table 6.1.
2. Ultrasonic acceptance criteria shall be the applicable criteria for either "Cyclically Loaded Nontubular Connections" or "Tubular Connections, Class R."
3. The RT will have to meet the applicable criteria for either "Cyclically Loaded Nontubular Connections (Tensile Stress)" or "Tubular Connections."

3.6.B. Visual Examination
Prior to any welding, the Contractor shall visually inspect the preparation of material for welding to assure compliance with AWS D1.1 Section 5 and Section 6, Part C. All completed welds shall be cleaned and carefully examined for insufficient throat or leg sizes, cracks, undercutting, overlap, excessive convexity or reinforcement, and other surface defects.

3.6.C. Welds to be Subject to Nondestructive Examination

1. Full Penetration Welds
   Full penetration welds, where indicated, shall be examined by the Contractor using ultrasonic testing (UT) and/or radiographic testing (RT) procedures described above. In additional to the full penetration welds specified for testing, a randomly chosen 25% of the remaining full penetration welds shall be ultrasonically tested to ensure the quality of the procedure and process. The random testing shall include a representative sample of welds from all welders and each of the processes each welder used. The random testing shall be spread throughout the project. A schedule for

implementing the random testing shall be developed by the Contractor and submitted for approval prior to fabrication.

2. Fillet Welds and Partial Penetration Groove Welds
The Contractor shall test all fillet welds and partial penetration welds as indicated on the drawing. Additionally, there will be 25% random testing of the remaining fillet and partial penetration groove welds. This testing shall be done by the magnetic particle testing procedures described above. This additional 25% shall include a representative sample of welds from all welders and each of the processes each welder used. The random testing shall be spread throughout the project. A schedule for implementing the random testing shall be developed by the Contractor and submitted for approval prior to fabrication.

3.7. CORRECTIONS

3.7.A. When welding is unsatisfactory or indicates inferior workmanship, the COR will require corrective measures and approve the subsequent corrections.

3.7.B. Conduct corrections in accordance with the requirements of AWS D1.1, AWS D1.2, AWS D1.4, or D1.6 as appropriate.

3.8. RECORD DRAWINGS

3.8.A. Record Drawings shall show final dimensions and types of welds.

3.8.B. Any changes to the placement of, dimensions of, or types of welds used from what is shown on the Contract Drawings shall be noted on the Record Drawings.

3.8.C. Section 01.78.39 may list additional requirements for welds and structures on the Record Drawings.

--End of Section--

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SECTION 05.50.03
MISCELLANEOUS METALWORK

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. Record Documents 3
1.6. Measurement and Payment 3
1.7. General 3
1.8. Dissimilar Materials 4
1.9. Quality Control 4
Part 2 - Products 5
2.1. General 5
2.2. Galvanizing 6
2.3. Documentation 6
Part 3 - Execution 6
3.1. Structural Fabrication 6
3.2. Pattern 7
3.3. Welding 7
3.4. Bolted Connections 7
3.5. Anchorage 8
3.6. Shop Assembly 8
3.7. Machine Work 8
3.8. Shop Painting 9
3.9. Miscellaneous Provisions 10
3.10. Installation 10
3.11. Record Drawings 11
--End of Section-- 11

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.33.00-Submittal Procedures

1.2.B. Section 01.78.39-Record Drawings

1.2.C. Section 05.05.23-Welding

1.3. REFERENCE STANDARDS

1.3.A. American Society of Mechanical Engineers (ASME)

1. ANSI/ASME B4.1-1967(R2009) Preferred Limits for Fits for Cylindrical Parts
2. ASME B46.1-2019 Surface Texture (Surface Roughness, Waviness, And Lay)

1.3.B. American Welding Society (AWS)

1. AWS D1.1:2020 Structural Welding Code-Steel, including Errata June 28, 2023

1.3.C. ASTM International (ASTM)

1. ASTM A36-19 Standard Specification for Carbon Structural Steel
2. ASTM A53-20 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
3. ASTM A123-24 Standard Specification for Zinc (Hot-Dip Galvanized Coatings on Iron and Steel Products
4. ASTM A276-24a Standard Specification for Stainless Steel Bars and Shapes
5. ASTM A380-17 Standard Practice for Cleaning, Descaling, and Passivation of Stainless Steel Parts, Equipment, and Systems
6. ASTM A500-23 Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
7. ASTM A572-21e1 Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
8. ASTM A653-20 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized or Zinc-Iron Alloy-Coated (Galvannealed by the Hot-Dip Process
9. ASTM A992-22 Standard Specification for Structural Steel Shapes
10. ASTM C920-18 Standard Specification for Elastomeric Joint Sealants
11. ASTM F436-19 Hardened Steel Washers
12. ASTM F1554-20 Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
13. ASTM F3125-23 Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi and 150 ksi Minimum Tensile Strength, Inch and Metric Dimensions

1.3.D. Commercial Item Description Standards

1. A-A-1923A Shield Expansion (Lag, Machine and Externally Threaded Wedge Bolt Anchors), Notice 2, June 28, 2006
everyspec.com/COMML_ITEM_DESC/A-A-01000_A-A-01999/download.php?spec=A-A-1923A_NOTICE-2.009911.pdf

1.3.E. General Services Administration (GSA)

1. Federal Specification FF-S-85E Screw, Cap, Slotted and Hexagon Head, March 30, 2020
everyspec.com/FED_SPECS/F/download.php?spec=FF-S-85E.056804.pdf

1.3.F. Research Council on Structural Connections (RCSC)

1. RCSC Specification for Structural Joints using High-Strength Bolts, June 11, 2020
www.boltcouncil.org/files/2020RCSCSpecification.pdf

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Shop Drawings
The Contractor shall submit shop drawings prior to fabrication for compliance confirmation. Include plans, elevations, and details of sections and connections as required. Show type and location of all fasteners.

2. Record Shop Drawings
During construction, the Contractor shall keep detailed records of any changes made to placement or construction. If any changes were made to fabricated metal, resubmit a corrected shop drawing showing the actual items used with the correct dimensions.

3. Product Data
Prior to installing any metalwork, the Contractor shall submit to the COR all required product information. All proposed products to be used shall meet or exceed the minimum requirements for the products and their proper use within the project.
   a. Manufacturer's literature, catalog cut sheets, or other publications that provide data on the product selected.
   b. Manufacturer's recommended installation procedures.
   c. Manufacturer's test reports showing that the material meets the requirements herein.

4. Certificates
   a. Provide mill certificates of all sizes and grades of metal that will be used on this project.
   b. Provide County of Origin certificates for the steel used.
   c. Provide documentation noting percentage of recycled content for the metal used.

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. Delivery Tickets
A legible copy of all delivery tickets, load manifests, or bills of lading provided with delivery of project materials shall be furnished to the COR. Attach all items with that day's quality control report.

1.6. MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for items specified in this Section. All costs in connection therewith shall be included in the Contract prices for the items to which the work is incidental thereto.

1.7. GENERAL

1.7.A. This Section specifies general workmanship requirements, applicable to the fabrication, assembly, and testing of various items of metalwork and machine work to ensure conformance with the Technical Specifications. These requirements are in addition to those contained in the specification sections covering the specific items of work or indicated on the Contract Drawings.

1.7.B. The Contractor shall verify all measurements and shall take all field measurements necessary before fabrication.

1.7.C. Welding to or on structural steel shall be in accordance with Section 05.05.23.

1.7.D. Items specified to be galvanized, when practicable and not indicated otherwise, shall be hot-dip galvanized after fabrication. A manufacturer's certification for the galvanizing compound shall be certified for compliance with above requirements.

1.7.E. Exposed fastenings shall be compatible materials, shall generally match in color and finish, and shall harmonize with the material to which fastenings are applied.

1.7.F. Materials and parts necessary to complete each item, even though such work is not definitely shown or specified, shall be included.

1.7.G. Poor matching of holes for fasteners shall be cause for rejection.

1.7.H. Fastenings shall be concealed where practicable.

1.7.I. Thickness of metal and details of assembly and supports shall provide strength and stiffness.

1.7.J. Joints exposed to the weather shall be formed to exclude water.

1.8. DISSIMILAR MATERIALS

Where dissimilar metals are in contact, or where aluminum is in contact with concrete, or absorptive materials subject to wetting, the surfaces shall be protected with a coat of bituminous paint or asphalt varnish.

1.9. QUALITY CONTROL

1.9.A. Tests of Materials

The Contractor shall, at their expense, perform analyses and tests to demonstrate that all materials are in conformity with the Technical Specifications. Should the Contractor desire to use stock materials not manufactured specifically for the work covered by these Technical Specifications, they shall submit evidence, satisfactory to the COR, that such material conforms to these requirements. Tests, except where modified, shall be made as indicated in the respective detailed Technical Specifications or on the Contract Drawings and, unless otherwise authorized, in the presence of the COR. The Contractor shall furnish specimens and samples for additional independent tests and analyses upon request by the COR. Specimens and samples shall be properly labeled and prepared for shipment.

1.9.B. Tests of Machinery and Structural Units

1. Each complete machinery and structural unit, as required by other sections of these Technical Specifications, shall be erected and tested in the shop in the presence of the COR, unless otherwise directed by the COR. Waiving of tests, however, will not relieve the Contractor of responsibility for any fault in operation, workmanship, or material that occurs before the completion of the Contract or guarantee.
2. After being installed at the site, each complete machinery or structural unit shall be operated through a sufficient number of complete cycles to demonstrate to the satisfaction of the COR that it meets the specified operational requirements in all respects.
3. The details for tests on the various machinery and structural units shall conform to the requirements of the applicable sections of these Technical Specifications.

1.9.C. Workmanship

Workmanship shall be of the highest grade and in accordance with the best modern practices to conform with the Technical Specifications for the item of work being furnished.

1. Miscellaneous metalwork shall be well formed to shape and size, with sharp lines and angles and true curves.
2. Drilling and punching shall produce clean true lines and surfaces.
3. Welding shall be continuous along the entire area of contact except where tack welding is permitted. Exposed connections of work in place shall not be tack welded. Exposed welds shall be ground smooth.
4. Exposed surfaces of work in place shall have a smooth finish.
5. Where tight fits are required, joints shall be milled. Corner joints shall be coped or mitered, well formed, and in true alignment.
6. Work shall be accurately set to established lines and elevations and securely fastened in place.
7. Installation shall be in accordance with manufacturer's installation instructions and Contract Drawings, cuts, and details.

1.9.D. Quality Control

The Contractor shall establish and maintain quality control for proper fabrication and installation of all work covered in this section to assure compliance with Technical Specifications and maintain records of quality control for all construction operations including but not limited to the following:

1. Fabrication.

2. Protective coating.
3. Placement and protection.
4. Material compliance with Contract Drawings and Technical Specifications.

PART 2 - PRODUCTS

2.1. GENERAL

2.1.A. If not detailed in other Technical Specification Sections, the original specifications, or the original drawings, metal components shall meet these requirements.

2.1.B. Structural Steel
Structural steel beams shall conform to ASTM A992. Steel channels, angles, plates, shapes, and bars shall conform to ASTM A36. HSS posts, bollards, and rails shall conform to ASTM A500 Grade B.

2.1.C. Miscellaneous Plates and Shapes
Miscellaneous plates, pipe, structural tubing, and shapes for items that do not form a part of the structural steel framework shall be provided to complete the work.

2.1.D. Corrosion Resistant Steel
Corrosion resistant steel shall conform to ASTM A276, Type 304. High strength corrosion resistant steel shall conform to ASTM A276, Type 431.

2.1.E. Seal Plates
Seal plates shall be solid corrosion-resistant steel of the sizes and dimensions indicated on the Contract Drawings. Seal plates may be spliced at the Contractor's convenience and at no cost to the Government. The Contractor shall not commence work on any seal plate splice until the procedure has been compliance confirmed by the COR.

2.1.F. Anchor Bolts
Anchor bolts shall be galvanized to conform to ASTM F1554, expect where noted otherwise.

2.1.G. Expansion Anchors
Expansion anchors shall meet the requirements of Commercial Item Description A-A-1923A, Type 4. Nail driven types will not be acceptable. Anchors shall be galvanized unless otherwise indicated.

2.1.H. Plastic Sealant
Sealant shall conform to the applicable provisions of ASTM C920.

2.1.I. Bolts, Nuts, Screws, and Washers

1. All nuts shall be equipped with washers where indicated on the shop drawings. Beveled washers shall be used where bearing faces have a slope of more than 1:20 with respect to a plane normal to the bolt axis.
2. The finished shank of each bolt shall be long enough to provide full bearing and washers shall be used to provide full grip when the nut is tightened.
   a. Bolts
      Galvanized bolts, including anchor bolts and fitted bolts, shall conform to ASTM F3125.
   b. Nuts
      Galvanized nuts shall conform to ASTM F3125.
   c. Cap Screws
      Cap screws shall conform to the applicable provisions of Federal Specification FF-S-85D, Type I, Style 2s, or Type II, Style 10p, standard thread unless indicated otherwise on the Contract Drawings or in another section of the Technical Specifications.
   d. Washers
      Galvanized washers shall conform to the applicable provisions of ASTM F436.

2.1.J. Fabricated and Manufactured Galvanized Steel Items

1. Pipe Sleeves
   Pipe sleeves shall be ASTM A53, Schedule 40 galvanized pipe.
2. Miscellaneous Plates and Shapes
   Miscellaneous plates, pipe, structural tubing, and shapes for items that are required complete the work and are noted to be galvanized shall be shall be fabricated of steel conforming to ASTM A36, ASTM A53 (Grade B), ASTM A500 (Grade B), ASTM A572 (Grade 50), or ASTM A992 and galvanized after fabrication.

2.1.K. Sheet Metal
Sheet metal shall meet the requirements of ASTM A653, hot-dip galvanized steel, commercial quality, G-90 Coating, 14 Gauge (0.0747-inches), 16 Gauge (0.0598-inches), 18 Gauge (0.0478-inches), 20 Gauge (0.0359-inches), or 22 Gauge (0.0299-inches).

2.2. GALVANIZING

Hot-dip galvanizing or zinc coating applied on products fabricated from rolled, pressed, or forged steel shapes, plates, bars, and strips shall comply with ASTM A123.

2.3. DOCUMENTATION

2.3.A. The Contractor shall furnish mill test reports or manufacturer's certification to the USIBWC for each lot or shipment of steel and iron materials.

2.3.B. The Contractor shall furnish documents, certification, or reports from manufacturer noting percentage of recycled content for each lot or shipment of steel and iron materials.

2.3.C. Verify any Buy American Acts that are in this Contract.

PART 3 - EXECUTION

3.1. STRUCTURAL FABRICATION

3.1.A. Material

1. Material must be straight before being laid off or worked. If straightening is necessary, it shall be done by methods that will not impair the metal. Sharp kinks or bends shall be cause for rejection of the material.
2. Material with welds will not be accepted except where welding is definitely specified, indicated on the Contract Drawings, or otherwise compliance confirmed.
3. Bends, except for minor details, shall be made by compliance confirmed dies, press brakes, or bending rolls. Where heating is required, precautions shall be taken to avoid overheating the metal, and it shall be allowed to cool in a manner as not to destroy the original properties of the metal.
4. Flame cutting of material other than structural steel shall be subject to compliance confirmation and, where proposed, shall be indicated on shop drawings submitted to the COR.
5. Shearing shall be accurately done, and all portions of the work shall be neatly finished.
6. Corners shall be square and true unless otherwise shown on the Contract Drawings.
7. Re-entrant cuts shall be filleted to a minimum radius of 3/4-inch unless otherwise compliance confirmed.
8. Finished members shall be free from twists, bends, and open joints.
9. Bolts, nuts, and screws shall be tight.

3.1.B. Dimensional Tolerances for Structural Work
Dimensions shall be measured by means of a compliance confirmed calibrated steel tape of approximately the same temperature as the material being measured at the time of measurement.

1. The overall dimensions of an assembled structural unit shall be within the tolerances indicated on the Contract Drawings or within the specific Technical Specifications for the item of work.
2. Except as required to meet the requirements above, an allowable variation of 1/32-inch is permissible in the overall length of component members with both ends milled; individual component members without milled ends shall not deviate from the dimensions shown on the Contract Drawings by more than 1/16-inch for members 30 feet or less in length and by more than 1/8-inch for members over 30 feet in length.

3.1.C. Structural Steel Fabrication
Structural steel may be cut by mechanically guided or hand-guided torches provided an accurate profile with a smooth surface which is free from cracks and notches is obtained. Surfaces and edges to be welded shall be prepared in accordance with AWS D1.1, Subsections 5.15 through 5.17 and 5.19. Where structural steel is not to be welded, chipping or grinding will not be required except as necessary to remove slag and sharp edges of mechanically guided or hand guided cuts not exposed to view. Hand-guided cuts which are to be exposed or visible shall be chipped, ground, or machined to sound metal.

3.2. PATTERN

In the construction of patterns, care shall be taken to avoid sharp corners or abrupt changes in cross section, and ample fillets shall be used. The Contractor shall add such draft and increases in pattern thicknesses as will conform to standard foundry practice and as may be necessary to ensure that all metal thicknesses of the finished castings conform to the dimensions shown on the Contract Drawings, within the tolerances specified in herein. All patterns will remain the property of the Contractor.

3.3. WELDING

3.3.A. Structural Steel
Unless otherwise authorized or specified, welding of structural steel shall be by an electric arc welding process using a method which excludes the atmosphere from the molten metal.

3.3.B. Welding shall meet all requirements in Sections 05.05.23.

3.4. BOLTED CONNECTIONS

3.4.A. Structural Steel Connections
Bolts, nuts, and washers shall be of the type specified or indicated on the Contract Drawings. All nuts shall be equipped with washers except for high strength bolts. Beveled washers shall be used where bearing faces have a slope of more than 1:20 with respect to a plane normal to the bolt axis. Where the use of high strength bolts is specified or indicated on the Contract Drawings, the materials, workmanship, and installation shall conform to the applicable provisions of RCSC "Specification for Structural Joints Using High-Strength Bolts."

1. Bolt Holes
Bolt holes shall be accurately located, smooth, perpendicular to the member and cylindrical.
   a. Regular Bolt Holes
   Holes for regular bolts shall be drilled or subdrilled and reamed in the shop and shall not be more than 1/16-inch larger than the diameter of the bolt.
   b. Fitted Bolt Holes
   Holes for fitted bolts shall be match-reamed or drilled in the shop. Burrs resulting from reaming shall be removed. The threads of bolts shall be entirely outside of the holes. The body diameter of bolts shall have tolerances as recommended by ANSI B4.1 for the class of fit specified. Fitted bolts shall be fitted in reamed holes by selective assembly to provide an LN-2 fit.

c. High Strength Bolt Holes
Holes for high strength bolts shall have diameters of not more than 1/16-inch larger than the bolt diameters. If the thickness of the material is not greater than the diameter of the bolts the holes may be punched. If the thickness of the material is greater than the diameter of the bolt, the holes may be drilled full size or subpunched or subdrilled at least 1/8-inch smaller than the diameter of the bolts and then reamed to full size. Poor matching of holes will be cause for rejection. Drifting done during assembly shall not distort the metal or enlarge the holes. For slight mismatching, reaming to a larger diameter of the next standard size bolt will be allowed.

3.4.B. Bolts shall be installed in such a manner to ensure that metallic coating on the base material is not damaged. Over torquing bolts/nuts on stainless steel will cause galling that damages the corrosion resistance.

1. If galvanizing is damaged during installation, they shall be replaced.
2. If stainless steel members are damaged during installation, they shall be replaced.

3.5. ANCHORAGE

Anchorage shall be provided where necessary for fastening miscellaneous metal items securely in place. Anchorage not otherwise specified or indicated shall include slotted inserts made to engage with the anchors, expansion shields, and power-driven fasteners when approved for concrete, toggle bolts and through bolts for masonry, machine and carriage bolts for steel.

3.6. SHOP ASSEMBLY

3.6.A. Unless otherwise specified, each machinery and structural unit furnished shall be assembled in the shop to determine the correctness of the fabrication and matching of the component parts.

1. The tolerances shall not exceed those shown on the Contract Drawings and each unit assembled shall be closely checked to ensure that all necessary clearances have been provided and that binding does not occur in any moving part.
2. Assembly in the shop shall be in the same position as final installation (closed position) in the field unless otherwise specified.
3. Assembly and disassembly work shall be performed in the presence of the Government Inspector, unless waived in writing by the COR.

3.6.B. Errors or defects disclosed shall be immediately remedied by the Contractor without cost to the Government.

3.6.C. Before disassembly for shipment, each piece of a machine or structure shall be match-marked to facilitate erection in the field.

3.6.D. The location of match-marks shall be indicated by circling with a ring of white paint after the shop coat of paint has been applied, or as otherwise directed.

3.7. MACHINE WORK

3.7.A. General

1. Unless otherwise shown on the shop drawings, all tolerances, allowances and gauges for metal fits between plain, non-threaded, cylindrical parts shall conform to ANSI B4.1 for the class of fit as shown or otherwise required. Where fits are not shown they shall be suitable as compliance confirmed by the COR. Tolerances for machine-finished surfaces designated by non-decimal dimensions shall be within 1/64-inch.
2. Sufficient machining stock shall be allowed on placing pads to insure true surfaces of solid material.

3. Finished contact or bearing surfaces shall be true and exact to secure full contact. Journal surfaces shall be polished, and all surfaces shall be finished with sufficient smoothness and accuracy to insure proper operation when assembled.
4. Parts entering any machine shall be carefully and accurately machined and all like parts shall be interchangeable, except that parts assembled together for drilling or reaming of holes or machining will not be required to be interchangeable with like parts.
5. All drilled holes shall be accurately located.

3.7.B. Finished Surfaces

1. Finishes, Indicated
   a. Where surface finishes are indicated on the Contract Drawings or specified herein, the symbols used, or finishes specified shall be in accordance with ASME B46.1. Values of required roughness height specified are arithmetical average deviations expressed in micro inches.
   b. Roughness specified is the maximum value and any lesser degree will be satisfactory unless otherwise indicated on the Contract Drawings.
   c. Compliance with surface requirements shall be determined by sense of feel and visual inspection of the work compared to Roughness Comparison Specimens, in accordance with the provisions of ASME B46.1.
   d. Values of roughness width and waviness height are not specified but shall be consistent with the general type of finish specified by roughness height.
   e. Flaws such as scratches, ridges, holes, peaks, cracks or checks which will make the part unsuitable for the intended use will be cause for rejection.
2. Finishes, Not Indicated
   Where the finish is not indicated or specified, the type of finish shall be that which is most suitable for the surface to which it applies and shall be consistent with the class of fit required. Surfaces to be machine finished shall be indicated on the shop drawings by symbols which conform to ASME B46.1.

3.7.C. Unfinished Surfaces

1. So far as practical, all work shall be laid out to secure proper matching of adjoining unfinished surfaces. Where there is a large discrepancy between adjoining unfinished surfaces, they shall be chipped and ground smooth, or machined, to secure proper alignment.
2. Unfinished surfaces shall be true to the lines and dimensions shown on the Contract Drawings and shall be chipped or ground free of all projections and rough spots.
3. Depressions or holes not affecting the strength or usefulness of the parts shall be filled in a manner compliance confirmed by the COR.

3.7.D. Shafting
Unless otherwise specified or authorized, all shafting shall be turned or ground hot-rolled or cold-rolled steel as required. Fillets shall be provided where changes in section occur. Cold-finished shafting may be used where keyseating is the only machine work required.

3.8. SHOP PAINTING

3.8.A. Surfaces of ferrous metal except galvanized surfaces, shall be cleaned and shop coated with the manufacturer's standard protective coating prior to painting.

3.8.B. Surfaces of items to be embedded in concrete shall not be painted but may be primed.

3.8.C. Items to be finish painted shall be prepared according to manufacturer's recommendations.

3.9. MISCELLANEOUS PROVISIONS

3.9.A. Cleaning of Corrosion-Resisting Steel

1. After fabrication, oil, paint, and other foreign substances shall be removed from corrosion-resisting steel surfaces. Cleaning shall be done by vapor degreasing or by the use of cleaners of the alkaline, emulsion or solvent type.
2. After the surfaces have been cleaned, they shall be given a final rinsing with clean water followed by a 24-hour period during which the surfaces are intermittently wet with clean water and then allowed to dry for the purpose of inspecting the clean surfaces.
3. The surfaces shall be visually inspected for evidence of paint, oil, grease, welding slag, heat treatment scale, iron rust or other forms of contamination.
4. If evidence of foreign substance exists, the surface shall be cleaned in accordance with the applicable provisions of Section 6 of ASTM A380. The proposed method of treatment shall be furnished for compliance confirmation.
5. After treatment the surfaces shall be visually reinspected. Brushes used to remove foreign substances shall utilize only stainless steel or nonmetallic bristles. Any contamination occurring subsequent to the initial cleaning shall be removed by one or more of the methods indicated above.

3.9.B. Protection of Finished Work

1. Machined Surfaces
   Machined surfaces shall be thoroughly cleaned of foreign matter. All finished surfaces shall be protected by suitable means. Unassembled pins and bolts shall be oiled and wrapped with moisture resistant paper or protected by other compliance confirmed means. Finished surfaces of ferrous metals to be in bolted contact shall be washed with a rust inhibitor and coated with a compliance confirmed rust resisting compound for temporary protection during fabrication, shipping and storage periods.
2. Lubrication
   The arrangement and details for lubrication shall be as shown on the Contract Drawings. Before erection or assembly, all bearing surfaces shall be thoroughly cleaned and lubricated with a compliance confirmed lubricant. After assembly, all lubricating systems shall be filled with the lubricant specified and, additional lubricant shall be applied at regular intervals to maintain the equipment in satisfactory condition until acceptance of the work by the COR.
   a. Thread Lubrication
      Threads on screw jacks and gate latches, shall be lubricated as specified above and maintained in satisfactory condition until acceptance of the work by the Government.

3.10. INSTALLATION

3.10.A. General

1. All parts to be installed shall be thoroughly cleaned. Packing compounds, rust, dirt, grit and other foreign matter shall be removed. Holes and grooves for lubrication shall be cleaned. Enclosed chambers or passages shall be examined to make sure that they are free from damaging materials.
2. Where units or items are shipped as assemblies they will be inspected by a representative of the COR prior to installation. Disassembly, cleaning and lubrication will not be required except where there is indication that such work is necessary to place the assembly in a clean and properly lubricated condition.
3. Pipe wrenches, cold chisels, or other tools likely to cause damage to the surfaces of rods, nuts or other parts shall not be used for assembling and tightening parts.
4. Bolts and screws shall be tightened firmly and uniformly, but care shall be taken not to over stress the threads. When a half nut is used for the purpose of locking a full nut, the half nut shall be placed first and followed by the full nut. Threads of all bolts, except high strength bolts, nuts and screws

shall be lubricated by graphite and oil before assembly. Threads of corrosion-resisting steel bolts and nuts shall be coated with a compliance confirmed anti-galling compound.

5. Driving and drifting bolts or keys will not be permitted.

3.10.B. Alignment and Setting
Each machinery or structural unit shall be accurately aligned by the use of steel shims or other compliance confirmed methods so that no binding in any moving parts or distortion of any member occurs before it is fastened in place. The alignment of all parts with respect to each other shall be true within the respective tolerances required. Machines shall be set true to the elevations shown on the Contract Drawings.

3.10.C. Blocking and Wedges
All blocking and wedges used during installation for the support of parts to be grouted in foundations shall be removed before final grouting unless otherwise directed by the COR. Blocking and wedges left in the foundations with the approval of the COR shall be of steel or iron.

3.10.D. Foundations and Grouting
Concreting of sub-bases and frames and the final grouting under parts of machines shall be in accordance with good construction procedures.

3.10.E. Expansion Joint Covers
Expansion joint covers shall be set in formwork before placing concrete and protected from damage.

3.10.F. Pipe Sleeves
Pipe sleeves shall be set in formwork before pouring concrete. Align and space as indicated on the Contract Drawings.

3.11. RECORD DRAWINGS

3.11.A. Record Drawings shall show final dimensions of all metalwork and appurtenances.

3.11.B. Any changes to the placement of, dimensions of, or types of material used from what is shown on the Contract Drawings shall be noted on the Record Drawings.

3.11.C. If different suppliers are used for different portions of the project, identify which areas of work match which suppliers.

3.11.D. Section 01.78.39 may list additional requirements for metalwork and structures on the Record Drawings.

--End of Section--

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International Boundary and Water Commission
United States Section

TECHNICAL SPECIFICATIONS
DIVISION 09
FINISHES

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SECTION 09.97.02
PAINTING HYDRAULIC STRUCTURES

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 3
1.5. Record Documents 4
1.6. Measurement and Payment 4
1.7. General 4
1.8. Qualifications 5
1.9. Ambient Conditions 6
1.10. Delivery, Storage, and Handling 6
1.11. Safety nd Health Requirements 6
1.12. Environmental Protection 6
Part 2 - Products 10
2.1. Special Paint Formulas 10
2.2. Paint Formulations 10
2.3. Ingredients for Special Paint Formulas 12
2.4. Testing 14
2.5. Vinyl Paints 14
2.6. Painting Schedules 14
Part 3 - Execution 15
3.1. Cleaning and Preparation of Surfaces to be Painted 15
3.2. Paint Application 17
3.3. Paint Systems Application 22
3.4. Inspection 23
3.5. Record Drawings 23
--End of Section-- 23

1.2. RELATED REQUIREMENTS

1.2.A. Section 01.20.00-Measurement and Payment

1.2.B. Section 01.33.00-Submittal Procedures

1.2.C. Section 01.35.23-Safety

1.2.D. Section 01.43.26-Testing and Inspection Agencies

1.2.E. Section 01.57.00-Temporary Controls for Work Areas

1.2.F. Section 01.57.19-Temporary Environmental Controls

1.2.G. Section 01.78.39-Record Drawings

1.3. REFERENCE STANDARDS

1.3.A. ASTM International (ASTM)

1. ASTM D153-84(2020) Specific Gravity of Pigments

2. ASTM D281-12(2021) Standard Test Method for Oil Absorption of Pigments by Spatula Rub-Out
3. ASTM D520-00(2019) Zinc Dust Pigment
4. ASTM D561-82(2020) Carbon Black Pigment for Paint
5. ASTM D740-11(2019) Methyl Ethyl Ketone
6. ASTM D841-24 Standard Specification for Nitration Grade Toluene
7. ASTM D962-81(2020) Aluminum Powder and Paste Pigments for Paints
8. ASTM D1045-19 Standard Test Methods for Sampling and Testing Plasticizers Used in Plastics
9. ASTM D1152-24 Methanol (Methyl Alcohol)
10. ASTM D1153-22 Methyl Isobutyl Ketone
11. ASTM D1200-23 Viscosity by Ford Viscosity Cup
12. ASTM D1210-05(2022) Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage
13. ASTM D2917-07(2021) Methyl Isoamyl Ketone
14. ASTM D3465-21 Standard Test Method for Purity of Monomeric Plasticizers by Gas Chromatography
15. ASTM D3721-05(2019) Synthetic Red Iron Oxide Pigment
16. ASTM D4228-05(2023) Standard Practice for Qualification of Coating Applicators for Application of Coatings to Steel Surfaces
17. ASTM D4417-21 Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
18. ASTM D7091-22 Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nondestructive Coatings Applied to Non-Ferrous Metals
19. ASTM E1347-06(2020) Standard Test Method for Color and Color Difference Measurement by Tristimulus (Filter) Colorimetry

1.3.B. Code of Federal Regulations (CFR) / Occupational Safety and Health Administration (OSHA)

1. 29 CFR 1904, Recording and Reporting Occupational Injuries and Illnesses
2. 29 CFR 1910, Occupational Safety and Health Standards
3. 29 CFR 1926, Construction Standards

1.3.C. Society for Protective Coatings (SSPC)

1. SSPC-PA 2-2022 Procedure for Determining Conformance to Dry Coating Thickness Requirements
2. SSPC-QP 1-2019 Standard Procedure for Evaluating the Qualifications of Industrial/Marine Painting Contractors (Field Application to Complex Industrial Steel Structures and Other Metal Components)
3. SSPC-QP 2-2019 Standard Procedure for Evaluating the Qualifications of Industrial/Marine Painting Contractors (Removal of Hazardous Coatings from Structures)
4. SSPC-SP 1-2016 Solvent Cleaning
5. SSPC-SP 3-2024 Power Tool Cleaning
6. SSPC-SP 5 (WAB)-2015/NACE WAB-1-2015 White Metal Wet Abrasive Blast Cleaning
7. SSPC-SP 6 (WAB)-2015/NACE WAB-3-2015 Commercial Wet Abrasive Blast Cleaning
8. SSPC-SP 16-2020 Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals

1.3.D. SAE International (SAE)

1. AMS-STD-595A Colors Used in US Government Procurement, February 10, 2017

1.3.E. United States Army Corps of Engineers (USACE)

1. USACE Safety and Health Requirements Manual, EM 385-1-1, March 15, 2024

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Environmental Protection Plan including:
   a. Water Quality Plan
   b. Containment Plan
   c. Waste Disposal Plan
   d. Soil Quality Plan
   e. TSP Monitoring Plan
   f. PM-10 Monitoring Plan
   g. Visible Emissions Monitoring Plan
2. APP Safety Plans including:
   a. Respiratory Protection Plan
   b. Airborne Sampling Plan
   c. Air Monitoring Test Plan
   d. Ventilation Assessment Plan
   e. Medical Surveillance Plan
   f. Worker Protection Plan
3. Product Data
   Prior to installing any items, the Contractor shall submit to the COR all required product information. All proposed products to be used shall meet or exceed the minimum requirements for the products and their proper use within the project.
   a. Manufacturer's literature, catalog cut sheets, or other publications that provide data on the product selected.
   b. Manufacturer's recommended installation procedures.
   c. Manufacturer's test reports showing that the material meets the requirements herein.
   d. SDS for all paints to be used by the Contractor as well as manufacturer's instructions for paint installation shall be submitted to the COR for compliance confirmation.
4. Qualifications
   a. Environmental, Health, and Safety (EHS) Professionals
   b. Painting Contractor
   c. Hazardous Paint Removal Contractor
   d. Shop Painting Contractor
   e. Coating Inspector
   f. Coating Applicator

5. Environmental Testing Laboratory(ies)
   Compliance confirmation of testing facilities shall be based on compliance with Section 01.43.26, and no work requiring testing will be permitted until the facilities have been compliance confirmed by the COR.
6. Environmental Compliance
   Submit documentation showing that all applicable laws, rules, and regulations are being followed for project-specific locations (Section 01.57.00).
7. Schedule of Values per Section 01.20.00

1.4.C. If this information has already been submitted for other work, it does not need to be resubmitted.

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. Delivery Tickets
   A legible copy of all batch/delivery tickets shall be furnished to the COR. Attach all tickets with that day's quality control report.
2. Test Reports
3. Inspection Reports
4. Medical Status Records
5. Change in Medical Status Report
6. Disposal Records
   Submit receipts of acceptance of material by landfill or documentation indicating proper disposal per Section 01.74.19.
7. All manuals, warranties, and maintenance documentation per Sections 01.77.19 and 01.78.36.

1.6. MEASUREMENT AND PAYMENT

1.6.A. Measurement
This Bid Item will be paid on the lump sum basis and no activity will be measured in the field for the purpose of payment for this individual activity. Progress payments for items listed in the Schedule of Values are based on the percentage complete, as determined by the COR. All costs in connection therewith shall be included in the Schedule of Values for the items to which the work is incidental thereto.

1.6.B. Payment

1. This Bid Item will be paid for based on the lump sum price identified in Section B of the Contract Provisions identified as "**Repainting Radial Gates**."
2. Payment constitutes full compensation for furnishing, delivering, handling, and/or installing all material, labor, services, testing, tools, equipment, and for other incidental work necessary to meet Contract requirements applicable. The Contractor will not be allowed payment for rejected items.
3. The progress payments are made to benefit the Contractor. These payments are made based upon preliminary field inspections, and preliminary testing data. Progress payments do not constitute acceptance of any portion of the work and do not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment.

1.7. GENERAL

1.7.A. The current paint/coating system on the radial gates shall be completely removed and then both sides of the radial gates shall be painted using one of the paint systems indicated in this Section.

1.7.B. The Contractor shall ensure that all paint is applied in a safe and environmental sound manner.

1.7.C. Any brand names used within this Section are for reference only and are not intended to direct the use of a specific product. The Contractor is responsible for finding materials that meet these specifications.

1.7.D. The Contractor shall make repairs as needed to perform proper sandblasting and paint application to each gate.

1.8. QUALIFICATIONS

1.8.A. Certified Environmental, Health, and Safety (EHS) Professionals
Provide a certificate for each Certified EHS Professional; submit qualifications and experience of qualified and competent persons employed to provide preconstruction and onsite environmental, safety, and health services. Obtain acceptance of this submission prior to the submission of other required environmental, safety, and health submittal items. Utilize a qualified and competent person as defined in EM 385-1-1, Section 01 to develop the required safety and health submittal and to provide onsite safety and health services during the contract period. The person must be a Certified Industrial Hygienist (CIH), an Industrial Hygienist (IH), or a Certified Safety Professional (CSP) with a minimum of 3 years of demonstrated experience in similar related work. The CIH, IH, or CSP may utilize other qualified and competent persons, as defined in EM 385-1-1, to conduct on-site safety and health activities as long as these persons have a minimum of 2 years of demonstrated experience in similar related work and are under the direct supervision of the CIH, IH, or CSP. For lead containing jobsites, the competent and qualified person must have successfully completed an EPA or state accredited lead-based paint abatement Supervisor course specific to the work to be performed and possess current and valid state and/or local government certification, as required.

1.8.B. Qualified Painting Contractor
The Painting Contractor must be a certified SSPC QP 1 Painting Contractor. Submit a copy of the applicable SSPC QP 2 Certificate. The Contractor must have been certified prior to award of this contract and must remain certified for the duration of this contract. Certifications scheduled to expire during the contract performance period must be renewed and submitted to the COR prior to expiration.

1.8.C. Qualified Hazardous Paint Removal Contractor
The Painting Contractor must be a certified SSPC QP 2 Category A Painting Contractor for all surface preparation or coating application. Submit a copy of the applicable SSPC Certificate. The Contractor must have been certified prior to award of this contract and must remain certified for the duration of this contract. Submit all renewals if they occur during the contract performance period. Renewals must be achieved prior expirations occurring.

1.8.D. Qualified Coating Applicator
Submit records of qualification tests for each Qualified Coating Applicator. Prior to the initiation of any work all coating applicators must be tested and certified as meeting the requirements of ASTM D4228. Certification must be administered by an authorized government representative. Applicators failing the certification procedure will not be permitted to apply any paint on the project.

1.8.E. Certification Test Procedure
Conduct certification testing of coating applicators at the job site in coordination with the COR. Supply the fabricated test plates to be used for the tests and provide crane service, rigging, and any other work necessary to provide accessibility for the certification testing and inspection. The test plate must be painted in a near vertical position. In preparation, clean and prepare the test plate in accordance with the requirements of the contracted work. Perform abrasive blasting with the blast media to be used in the contract. The paints to be applied are Contractor supplied materials and are those previously tested and approved for use on the contract. Paints must be applied as specified in this contract. The painter being tested must mix and thin the paints to be used in the test and set up and adjust the application equipment for use. Each painter must apply each of the types of paint comprising the specified system. The Contractor's QC inspector must be present during the procedure to monitor the actions of the painter being tested.

1.8.F. Certification Criteria
Evaluate the paint applicator based on the conformance of the applied paint system to the requirements of this specification. Deficiencies in the coatings, improper mixing or improper application methods are basis for failure. The authorized Government Representative is the sole judge as to the acceptability of each coating applicator's performance.

1.8.G. Coating Thickness Gage Qualification
Submit Coating Thickness Gage Qualification documentation of manufacturer's certification for all coating thickness gages. Use magnetic flux thickness gages as described in ASTM D7091 to make all coating thickness measurements on ferrous metal substrates.Use eddy current thickness gages as described in ASTM D7091 to measure coating thickness on all nonferrous metal substrates. Gages to be used on the job must have an accuracy of 3% or better and be certified by the manufacturer as meeting this requirement.

1.9. AMBIENT CONDITIONS

Paint must be applied in accordance with the manufacturers written instructions or to the special requirements contained herein. Surfaces that are less than 5°F above the dew point temperature must be monitored closely to assure that are completely free of moisture as determined by sight and touch. Paint must not be applied to surfaces upon which there is detectable frost or ice. Except as otherwise specified, paint must not be applied if the temperature of the surfaces to be painted and of air in contact therewith is less than 45°F during paint application nor if the surfaces can be expected to drop to 32°F or lower before the film has dried to a reasonably firm condition. During periods of inclement weather, painting may be continued by enclosing the surfaces and utilizing climate control equipment (e.g. dehumidification, heaters, etc.), provided the minimum temperatures and surface dryness requirements prescribed previously are maintained. Paint must not be applied to surfaces heated by direct sunlight or other sources to temperatures that will cause detrimental blistering, pinholing, or porosity of the film.

1.10. DELIVERY, STORAGE, AND HANDLING

Process and package paints to ensure that within a period of one year from date of manufacture, they will not gel, liver, or thicken deleteriously, or form gas in the closed container. Paints, unless otherwise specified or permitted, must be packaged in standard containers not larger than 5 gallon, with removable friction or lug-type covers. Containers for vinyl-type paints must be lined with a coating resistant to solvents in the formulations and capable of effectively isolating the paint from contact with the metal container. Each container of paint or separately packaged component thereof must be labeled to indicate the purchaser's order number, date of manufacture, manufacturer's batch number, quantity, color, component identification and designated name, and formula or specification number of the paint together with special labeling instructions, when specified. Paint must be delivered to the job in unbroken containers. Paints that can be harmed by exposure to cold weather must be stored in ventilated, heated shelters. All paints must be stored under cover from the elements and in locations free from sparks and flames.

1.11. SAFETY ND HEALTH REQUIREMENTS

All items detailed in Section 01.35.23 Paragraph 1.17. must be compliance confirmed before proceeding with work.

1.12. ENVIRONMENTAL PROTECTION

1.12.A. In addition to the requirements of Section 01.57.19 prepare an Environmental Protection Plan incorporating the submittals for Water Quality Plan, Containment Plan, Waste Disposal Plan, Soil Quality Plan, TSP Monitoring Plan, PM-10 Monitoring Plan, and Visible Emissions Monitoring Plan.

The submitted plans must also address all aspects of establishing and demarcating regulated areas, ventilation/containment system performance verification, and reporting of accidental releases. Comply with the following environmental protection criteria.

1.12.B. Waste Classification, Handling, and Disposal

1. Prepare and submit a Waste Disposal Plan in accordance with the requirements of 40 CFR 261 and 40 CFR 262 including classification and handling. The Contractor is responsible for assuring the proper disposal of all hazardous and nonhazardous waste generated during the project.
2. Regardless of the results of 40 CFR 261 App II, Mtd 1311, all waste generated from abrasive blasting, lead-containing paints with recyclable steel or iron abrasives must be either disposed of as a hazardous waste or be stabilized with proprietary pre-blast additives. Where stabilization is preferred, employ a proprietary blast additive, that has been blended with the blast media prior to use. Place hazardous waste in properly labeled, closed containers shielded adequately to prevent dispersion of the waste by wind or water. Any evidence of improper storage is cause for immediate shutdown of the project until corrective action is taken. Store nonhazardous waste in closed containers separate from hazardous waste storage areas. Transport all hazardous waste by a licensed transporter in accordance with 40 CFR 263 and 49 CFR 171, Subchapter C. Transport all nonhazardous waste in accordance with local regulations regarding waste transportation. In addition to the number of copies required by 40 CFR 262.22, supply one copy of each Waste Manifest to the COR prior to transportation.

1.12.C. Containment

Prepare a Containment Plan for containing debris generated during paint removal operations. Include drawings, load-bearing capacity calculations, and wind load calculations. When the design is such that the spent abrasive is allowed to accumulate in quantities greater than 1,000 pounds, and/or impart a significant wind load on the structure, have the drawings approved by a registered structural engineer. The drawings and calculations must be stamped with the engineer's seal. Also identify the type and placement of water booms, methods for anchoring the booms, and the procedures for removing debris. Contain debris generated during paint removal operations in accordance with the requirements of SSPC Guide 6. Where required, verify the containment air pressure by instrument.

1.12.D. Visible Emissions Monitoring

Prepare a Visible Emissions Monitoring Plan including the provisions for halting work and correcting the containment in the event unacceptable emissions are observed. General statements must not be used; specific methods, procedures, and details are required. Measure the time of emissions in accordance with 40 CFR 60, App A, Mtd 22. Monitor visible emissions for not less than 15 minutes of every hour. Calculate visible emissions for each hour by extrapolation. Visible emissions must not extend greater than 150 feet in any direction horizontal from the containment. Visible emissions must not be observed in the area of any sensitive receptor. If such emissions occur shut down the job immediately and take corrective action. Notify the foreman whenever visible emissions exceed 200 seconds in a 1-hour period. Whenever visible emissions exceed 300 seconds in a 2-hour period notify the foreman, shut down the job, and take corrective action. If the total observed visible emissions from the containment exceeds 5% of the work day, shut down the job and take corrective action to prevent such an occurrence. Document each time that the work is halted due to a violation of the visible emissions criteria. Documentation must include the cause for shutdown and the corrective action taken to resolve the problem.

1.12.E. PM-10 Monitoring

1. Prepare and submit a PM-10 Monitoring Plan for monitoring emissions of particulate matter 10 microns or less in size (PM-10) in compliance with the requirements of EPA regulation 40 CFR 50.6 and this paragraph. The plan must also include provisions for halting work and correcting the containment in the event unacceptable emissions occur. Position the air monitoring equipment in accordance with 40 CFR 58, App E, Subpart (8). In addition, a minimum of two PM-10 monitors must be used at the project site, one downwind from the project and one in the area of greatest public access (e.g., playground, school yard, or homeowner's yard). When the project is in an area

where there are critical receptors nearby, monitoring must be conducted throughout the entire period that abrasive blasting and cleanup operations are performed. Otherwise, perform monitoring 4 of the first 8 days and on a regular basis thereafter for a sum total of 25% of the time surface preparation and debris cleanup are performed. If air quality regulatory limits are not met, take corrective actions and immediately repeat air monitoring. Conduct the pre-project PM-10 monitoring a minimum of 2 weeks prior to the beginning of the project and continue for a minimum of 3 days to establish background levels. Submit a PM-10 Test Report to the COR within 48 hours, that includes:

a. Name and location of jobsite.
b. Date of monitoring.
c. Time of monitoring (i.e., time monitoring begins and ends each day).
d. Identification and serial number of monitoring units.
e. Drawing showing specific location of monitoring units.
f. Drawing showing specific location of paint removal operation and the method of removal or work activity being performed.
g. Wind direction and velocity.
h. A flow chart verifying the rate of air flow across the filter throughout the sampling period.
i. Name and address of laboratory.
j. Laboratory test procedure.
k. Laboratory test results.
l. Signatures of field and laboratory technicians conducting the work.

1.12.F. TSP Monitoring

1. Prepare a TSP Monitoring Plan for monitoring emissions of Total Suspended Particulates (TSP) in compliance with the requirements of EPA regulation 40 CFR 50.12 and this paragraph. The plan must include provisions for halting work and correcting the containment in the event unacceptable emissions occur. Position the air monitoring equipment in accordance with 40 CFR 58, App E, Subpart (8). A minimum of two TSP monitors must be used at the project site, one downwind from the project and one in the area of greatest public access (e.g. playground, school yard, or homeowner's yard). When the project is in an area where there are critical receptors nearby, TSP-lead monitoring must be conducted throughout the entire period that abrasive blasting and cleanup operations are performed. Otherwise, perform monitoring 4 of the first 8 days and on a regular basis thereafter for a sum total of 25% of the time surface preparation and debris cleanup are performed. If air quality regulatory limits are not met, require air monitoring to be repeated immediately after corrective actions have been taken. Also conduct pre-project TSP monitoring. Conduct the pre-project TSP monitoring a minimum of 2 weeks prior to the beginning of the project and continue the monitoring for a minimum of 3 days to establish background levels. Submit a TSP Test Report to the COR within 48 hours including:

a. Name and location of jobsite.
b. Date of monitoring.
c. Time of monitoring (i.e., time monitoring begins and ends each day).
d. Identification and serial number of monitoring units.
e. Drawing showing specific location of monitoring units.
f. Drawing showing specific location of paint removal operation and the method of removal or work activity being performed.
g. Wind direction and velocity.
h. A flow chart verifying the rate of air flow across the filter throughout the sampling period.
i. Name and address of laboratory.
j. Laboratory test procedure.
k. Laboratory test results.

l. Signatures of field and laboratory technicians conducting the work.

1.12.G. Water Quality

Prepare a Water Quality Plan for all job sites where lead-containing or other hazardous paint will be removed, including provisions for halting work if spills or emissions are observed entering into bodies of water or found in areas where storm water runoff could carry the debris into bodies of water or storm sewers. The plan must also address cleanup and reporting procedures. Conduct operations in such a manner that lead-containing and other hazardous paint debris do not contaminate the water and so that NPDES permits in accordance with EPA regulation 40 CFR 122 are not required for the project. Any release of lead paint debris into the waterways having a reportable quantity of hazardous substance pursuant to Section 311 of the Clean Water Act, must be reported to the EPA in accordance with 40 CFR 117 and 40 CFR 355. The plan must require the thorough documentation of any release or spill that carries into waterways or storm sewers. Include the time and location of the release, amount of material released, actions taken to clean up the debris, amount of debris recovered, and corrective action taken to avoid a reoccurrence. Also report releases to the Coast Guard and other state and local authorities as appropriate. If the release is equivalent to 10 pounds or more of lead-containing material in a 24-hour period, it is considered to be a reportable quantity under CERCLA. Comply with 40 CFR 302.

1.12.H. Soil Quality

1. Prepare a Soil Quality Plan for all job sites where lead-containing or other hazardous paint will be removed. The plan must include provisions for halting the work should soil contamination occur, correcting the deficiencies responsible for the contamination, and provide procedures for removing and replacing contaminated soil. Establish and implement practices and procedures for preventing contamination of the soil from the removal of lead-containing or other hazardous paints. Unless otherwise directed by the COR, soil is considered to have been contaminated by the Contractor's operation if an increase in the total lead content of 100 PPM or greater over background levels occurs. For purposes of computing the increase compute the mean background levels and the mean post-removal levels. The 100 PPM criteria is met if the difference between the means is less than 100 PPM plus the 95% confidence limit.
2. Conduct soil sampling and testing prior to the beginning of the project and after the project is completed. Interim testing may also be performed in the event the Contractor or COR wants to confirm that the containment system and work practices continue to provide satisfactory protection of the soil. Unless otherwise directed by the COR, the following minimum test locations must be selected for soil analysis. Select two locations beneath or immediately adjacent to the structure being prepared. Take additional samples within 100 feet in each direction of the project (i.e., N, S, E, W) in which soil is present. The number of soil sample locations must be sufficient to adequately characterize the soil contaminant levels within and around the project area. Collect five composite samples at each location. Each of the five samples must be comprised of five individual plugs of soil combined in a single bag. Use the following procedure to collect the composite samples:
   a. Place a 1-square foot template at each location.
   b. Remove a sample of soil 3/4 inch in diameter and 1/2 inch in depth at the center of the template and at each of the four corners. Place the five soil plugs into a single bag. This represents one of the three samples to be removed at a given location.
   c. Move the template 1 inch in any direction and repeat the process to collect the second sample. Place all plugs in a separate bag. Move the template 1 inch farther to collect the third sample.
   d. Identify each sample bag with the date, specific location of the sample, name and signature of the sampling technician, and complete chain of custody records.
   e. It is critical that the specific location of each sample be thoroughly measured and documented as the final project testing (and any interim testing) must be sampled in the precise locations.
3. Analyze three samples collected at each location. One of the remaining two samples is to be maintained by the Contractor for the duration of the project and the other by the COR in the event reanalysis is required. Analyze lead-containing samples in accordance with EPA testing guidance as

published in 40 CFR 261, App III, by a laboratory listed by the American Industrial Hygiene Association (AIHA) as being proficient in conducting the test.

4. Note that if it is determined that contamination of the soil has occurred as a result of the paint removal operations, TCLP testing must be employed to determine if the soil must be handled and disposed of as a hazardous waste. The initial sampling of the soil for total lead content does not establish whether the soil will be considered hazardous by TCLP testing. As a result, at the Contractor's option, additional prework soil samples may be removed (minimum of 105 grams is required for a single test at each site) to conduct TCLP testing to establish whether the soil would be classified as hazardous prior to project startup.
5. In the event that there is a release of lead paint debris onto the soil and if the release is 10 pounds or more of lead-containing material in a 24-hour period, it is considered to be a reportable quantity under CERCLA. Comply with 40 CFR 302. Thoroughly document the occurrence of any spills of lead debris into the soil. The documentation must include the time and location of the release, amount of material released, actions taken to clean up the debris, amount of debris reclaimed, and corrective action taken to avoid a reoccurrence. Provide the documentation to the COR including the Soil Quality Test Report with results of the prework and post work soil quality tests.

1.12.I. Process and package paints to ensure that within a period of one year from date of manufacture, they will not gel, liver, or thicken deleteriously, or form gas in the closed container. Paints, unless otherwise specified or permitted, must be packaged in standard containers not larger than 5 gal, with removable friction or lug-type covers. Containers for vinyl-type paints must be lined with a coating resistant to solvents in the formulations and capable of effectively isolating the paint from contact with the metal container. Each container of paint or separately packaged component thereof must be labeled to indicate the purchaser's order number, date of manufacture, manufacturer's batch number, quantity, color, component identification and designated name, and formula or specification number of the paint together with special labeling instructions, when specified. Paint must be delivered to the job in unbroken containers. Paints that can be harmed by exposure to cold weather must be stored in ventilated, heated shelters. All paints must be stored under cover from the elements and in locations free from sparks and flames.

PART 2 - PRODUCTS

2.1. SPECIAL PAINT FORMULAS

Special paints must have the composition as indicated in the formulas listed herein. Where so specified, package paint formulation components in separate containers for mixing on the job. If not specified or otherwise prescribed, the color must be that naturally obtained from the required pigmentation.

2.2. PAINT FORMULATIONS

2.2.A. Special paint formulas must comply with the following:

2.2.B. Formula V-102E

1. The formula for Vinyl-Type Ready-Mixed Aluminum Impacted Immersion Coating is shown in Table 6.

Table 6 - V-102E

INGREDIENTS	PERCENT BY MASS
Vinyl Resin, Type 3	18.2
Aluminum Powder	8.3
Plasticizer	3.1
Methyl Isobutyl Ketone (MIBK)	33.8
Toluene	36.6
Total	100.0

2. Furnish the paint with the aluminum pigment mixed into the vehicle.
3. The finished paint must show the proper proportions of specified materials when analyzed by chromatographic and/or spectrophotometric methods and have a viscosity between 60 and 90 seconds using ASTM D1200 and a No. 4 Ford cup.

2.2.C. Formula VZ-108D

1. The formula for Vinyl-Type Zinc-Rich Impacted Immersion Coating is shown in Table 7.

Table 7 - VZ-108D

INGREDIENTS	PERCENT BY WEIGHT	POUNDS	GALLONS
COMPONENT A			
Vinyl Resin, Type 3	16.6	109.2	9.65
Methyl Isobutyl Ketone	80.6	528.9	79.30
Suspending Agent E	0.7	4.6	0.28
Suspending Agent F	0.4	2.7	0.19
Methanol	0.5	3.3	0.50
Synthetic Iron Oxide (Red)	1.2	7.9	0.19
Total	100.0	656.6	90.11
COMPONENT B			
Silane B	100.0	4.1	0.47
COMPONENT C			
Zinc Dust	100.0	550.0	9.42
Total Volume (mixed paint)			100.00

2. Disperse the iron oxide and suspending agents into the vehicle (Component A) to a fineness of grind of not less than 4 on the Hegman scale (ASTM D1210). Grinding in steel-lined containers or using steel-grinding media will not be permitted. The paint must show the proper proportions of specified materials when analyzed by chromatographic and/or spectrophotometric methods. The sole purpose of the iron oxide pigment is to produce a contrasting color. A red iron oxide-type 3 vinyl resin vehicle paste may be used in place of dry iron oxide provided compensating adjustments are made in the additions of Type 3 resin and methyl isobutyl ketone. The finished product with zinc dust added must produce a paint which has a red tone upon drying and a reflectance of not more than 16 (ASTM E1347).
3. Supply VZ-108D paint as a kit. Each kit must consist of 4.5 gallon (33.1 pounds) of Component A in a 5-gallon lug closure type pail, 27.5 pounds of zinc dust (Component C) packaged in a 1-gallon plastic pail, and 3 fluid ounces of silane (Component B) packaged in a glass bottle of suitable size having a polyethylene lined cap. Place the bottle of silane on the zinc dust in the 1-gallon pail. In addition to standard labeling requirements, identify each container of each component as to component type. Each container label of Component A must carry the following: MIXING AND APPLICATION INSTRUCTIONS: WARNING - THIS PAINT WILL NOT ADHERE TO STEEL SURFACES UNLESS COMPONENT B IS ADDED. Remove the 3 ounces of bottled Component B (silane) from the Component C (zinc dust) container and add to the base paint (Component A)

with thorough stirring. Then sift the zinc dust into the base paint while it is being vigorously agitated with a power-driven stirrer and continue the stirring until the zinc dust has been dispersed. At some point strain the mixed paint through a 30-60 mesh screen to prevent zinc dust slugs from reaching the spray gun nozzle. Stir the paint continuously during application at a rate that will prevent settling. If spraying is interrupted for longer than 15 minutes, vigorously whip the entire length of the hose to redisperse the zinc. If the spraying is to be interrupted for more than 1 hour, empty the hose by blowing the paint back into the paint pot. Thinning will not normally be required when ambient temperatures are below about 80°F, but when the ambient and steel temperatures are higher, methyl isoamyl ketone (MIAK) or methyl isobutyl ketone (MIBK) should be used. If paint is kept covered at all times, its pot life will be about 8 days.

2.2.D. Formula V-766E

1. The formula for Vinyl-Type White (or Gray) Impacted Immersion Coating is shown in Table 8.

Table 8 - V-766E

INGREDIENTS	PERCENT BY MASS
Vinyl Resin, Type 3	5.6
Vinyl Resin, Type 4	11.6
Titanium Dioxide and (for Gray) Carbon Black	13.0
Plasticizer	2.9
Methyl Isobutyl Ketone	32.0
Toluene	34.7
Ortho-Phosphoric Acid	0.2
Total	100.0

2.2.E. Disperse the pigment by means of pebble mills or other approved methods to produce a fineness of grind (ASTM D1210) of not less than 7 on the Hegman scale. Grinding in steel-lined or steel-ball mills will not be permitted. No grinding aids, antisettling agents, or any other materials except those shown in the formula will be permitted. Measure the ortho-phosphoric acid accurately and dilute it with at least four parts of ketone to one part of acid. Add it slowly into the finished paint with constant and thorough agitation.

2.2.F. The finished paint must show the proper proportions of specified materials when analyzed by chromatographic and/or spectrophotometric methods and have a viscosity between 60- and 90-seconds using ASTM D1200 and a No. 4 Ford cup.

2.2.G. Furnish the white and gray paints in the volume ratio designated by the purchaser. The gray paint must contain no pigments other than those specified. Include enough carbon black to produce a dry paint film having a reflectance of 20-24 (ASTM E1347). The resulting gray color must approximate color 26231 of SAE AMS-STD-595A.

2.3. INGREDIENTS FOR SPECIAL PAINT FORMULAS

2.3.A. The following ingredient materials and thinners apply only to those special paints whose formulas are shown above in detail.

2.3.B. Pigments and Suspending Agents

1. Aluminum Powder
   For vinyl paint aluminum powder must conform to ASTM D962, Type 1, Class B.
2. Carbon Black
   Carbon black must conform to ASTM D561, Type I or II.

3. Zinc Dust
   Zinc dust pigment must conform to ASTM D520, Type II.
4. Iron Oxide
   Iron oxide, (Dry) synthetic (red), must conform to ASTM D3721. In addition, the pigment must have a maximum oil absorption of 24 and a specific gravity of 4.90 to 5.20 when tested in accordance with ASTM D281 and ASTM D153, Method A, respectively. When the pigment is dispersed into specified vinyl paint formulation, the paint must have color approximating SAE AMS-STD-595A color 10076 (dark red paint) and show no evidence of incompatibility or reaction between pigment and other components after 6 months storage.
5. Titanium Dioxide
   Titanium dioxide in vinyl paint Formula V-766E must be one of the following: Kronos 2160 or 2101, Kronos, Inc.; Ti-Pure R-960, E.I. Dupont DeNemours and Co., Inc.
6. Suspending Agent E
   Suspending Agent E must be a light cream colored finely divided powder having a specific gravity of 2 to 2.3. It must be an organic derivative of magnesium aluminum silicate mineral capable of minimizing the tendency of zinc dust to settle hard without increasing the viscosity of the paint appreciably. M-P-A-14, produced by Elementis Specialties, has these properties.
7. Suspending Agent F
   Suspending Agent F must be a light cream colored finely divided powder having a specific gravity of approximately 1.8. It must be an organic derivative of a special montmorillonite (trialkylaryl ammonium hectorite). Bentone 27, produced by Elementis Specialties, has these properties.

2.3.C. Resins, Plasticizer, and Catalyst

1. Plasticizer
   The plasticizer must be either Di 2-propyl Heptyl Phthalate (DPHP) or Diisodecyl Phthalate (DIDP). DPHP must have an ester content of not less than 99.5% (ASTM D3465), must contain not more than 0.1% water, and must have an acid number (ASTM D1045) of not more than 0.07. DIDP must have a purity of not less than 99.0%, must contain no more than 0.1% water, and must have an acid number (ASTM D1045) of not more than 0.10.
2. Vinyl Resin, Type 3
   Vinyl resin, Type 3, must be a vinyl chloride-acetate copolymer of medium average molecular weight produced by a solution polymerization process and must contain (by weight) 85 +/- 1.0% vinyl chloride and 15 +/- 1.0% vinyl acetate by weight. The resin must have film-forming properties and must, in specified formulations, produce results equal to Vinnol H 15/50, as manufactured by Wacker Chemie AG.
3. Vinyl Resin, Type 4
   Vinyl resin, Type 4, must be a vinyl chloride-acetate type produced by a solution polymerization process, must contain 1% interpolymerized dicarbonic acid, 84 +/- 1.0% vinyl chloride, and 15 +/- 1.0% vinyl acetate. The resin must have film-forming properties and must, in the specified formulations, produce results equal to Vinnol H 15/45 M, as manufactured by Wacker Chemie AG.
4. Ortho-phosphoric Acid
   Ortho-phosphoric acid must be a chemically pure 85% grade.

2.3.D. Solvent and Thinners

1. Methanol
   Methanol (methyl alcohol) must conform to ASTM D1152.
2. Methyl Ethyl Ketone
   Methyl ethyl ketone (MEK) must conform to ASTM D740.
3. Methyl Isobutyl Ketone
   Methyl isobutyl ketone (MIBK) must conform to ASTM D1153.

4. Methyl Isoamyl Ketone
   Methyl isoamyl ketone (MIAK) must conform to ASTM D2917.
5. Toluene
   Toluene must conform to ASTM D841.
6. Silane B
   Silane B for Formula VZ-108D must be N-beta-(aminoethyl)-gamma- aminopropyl trimethoxy silane. Silquest A-1120, produced by Momentive Performance Materials Inc., and Silane Z-6020, produced by Dow Corning Corporation, are products of this type.
7. Propylene Oxide
   Propylene oxide must be a commercially pure product suitable for the intended use.

2.4. TESTING

2.4.A. Chromatographic Analysis
Solvents in vinyl paints and thinners are subject to analysis by programmed temperature gas chromatographic methods and/or spectrophotometric methods, employing the same techniques that give reproducible results on prepared control samples known to meet the specifications. If the solvent being analyzed is of the type consisting primarily of a single chemical compound or a mixture or two or more such solvents, interpretation of the test results must take cognizance of the degree of purity of the individual solvents as commercially produced for the paint industry.

2.5. VINYL PAINTS

2.5.A. Vinyl paints are subject to the following adhesion test. When V-766 formulations are tested, spray apply 5 to 7 mils (dry) to mild steel panels. The steel panels must be essentially free of oil or other contaminants that may interfere with coating adhesion and be dry blast cleaned to a white metal grade in compliance with SSPC SP 5/NACE No. 1.

2.5.B. The surface must have an angular profile of 2.0 to 2.5 mils as measured by ASTM D4417, Method C. When V-102 formulations are tested, spray apply the product over 1.5 to 2.5 mils (dry) of V-766 or V-106 known to pass this test. When VZ-108 is tested, the coating must be mixed in its proper proportions and then spray applied to a dry film thickness of 1.5 to 2.5 mils above the blast profile. The VZ-108 must be top coated with a V-766 known to pass this test. In all cases, the complete system must have a total dry film thickness of 5 to 7 mils above the blast profile. After being air dried for 2 hours at room temperature, dry the panel in a vertical position for 16 hours at 120°F. After cooling for 1 hour, immerse the panel in tap water at 85 to 90°F for 48 to 72 hours.

2.5.C. Immediately upon removal, dry the panel with soft cloth and examine for adhesion as follows: With a pocketknife or other suitable instrument, make two parallel cuts at least 1 inch long, 1/4 to 3/8 inch apart through the paint film to the steel surface. Make a third cut perpendicular to and passing through the end of the first two. With the tip of the knife blade, loosen the film from the panel from the third cut between the parallel cuts for a distance of 1/8 to 1/4 inch. With the panel being held horizontally, grasp the free end of the paint film between the thumb and forefinger and pulled vertically in an attempt to remove the film as a strip from between the first two cuts. Remove the strip of paint film at a rate of approximately 1/10 inch per second and maintaining it in a vertical position during the process of removal. The adhesion is acceptable if the strip of paint breaks when pulled or if the strip elongates a minimum of 10% during its removal. Paints not intended to be self-priming must not exhibit any delamination from the primer.

2.6. PAINTING SCHEDULES

Gates 1-8 including the whole tainter gate structure (gate dry & wet sides, ribs, girders, struts, bracing, trunnion, trunnion covers, box girder, etc.) shall be painted per System No 3 (Table 9) or 3-A-Z (Table 10).

Table 9 - System No 3

SURFACE PREPARATION	1st COAT	2nd COAT	3rd COAT	4th COAT
White metal blast cleaning	White Vinyl V-766E (double spray coat)	Gray Vinyl V-766E (double spray coat)	Aluminum Vinyl V-102E (double spray coat)	Aluminum Vinyl V-102E (double spray coat)

Table 10 - System No 3-A-Z

SURFACE PREPARATION	1st COAT	2nd COAT	3rd COAT	4th COAT
White metal blast cleaning	Vinyl zinc-rich VZ-108D (double spray coat)	White Vinyl V-766E (double spray coat)	Aluminum Vinyl V-102E (double spray coat)	Aluminum Vinyl V-102E (double spray coat)

PART 3 - EXECUTION

3.1. CLEANING AND PREPARATION OF SURFACES TO BE PAINTED

3.1.A. General Requirements

1. Clean surfaces to be painted before applying paint or surface treatments. Remove deposits of grease or oil in accordance with SSPC SP 1, prior to mechanical cleaning. Perform solvent cleaning with mineral spirits or other low toxicity solvents having a flash point above 100°F. Use clean cloths and clean fluids to avoid leaving a thin film of greasy residue on the surfaces being cleaned. Protect items not to be prepared or coated from damage by the surface preparation methods. Protect machinery and electrical components against entry of blast abrasive and dust into working parts. Program cleaning and painting such that dust or other contaminants from the cleaning process do not fall on wet, newly painted surfaces. Protect surfaces not intended to be painted from the effects of cleaning and painting operations. Conduct welding of, or in the vicinity of, previously painted surfaces in a manner to prevent weld spatter from striking the paint and to otherwise reduce coating damage to a minimum.
2. Restore any paint damaged by welding operations to original condition. Surfaces to be painted that will be inaccessible after construction, erection, or installation operations are completed must be painted before they become inaccessible.

3.1.B. Ferrous Surfaces Subject to Atmospheric Exposures

1. Clean ferrous surfaces that are to be continuously in exterior or interior atmospheric exposure and other surfaces as directed by means of dry blasting to a commercial grade. Perform cleaning and priming in the shop unless otherwise directed or permitted. Conduct commercial blast cleaning in conformance with the requirements of SSPC SP 6/NACE No. 3. Clean welds and adjoining surfaces within a few inches (centimeters) of weld flux, spatter, and other harmful deposits by blasting, power impact tools, power wire brush, or such combination of these and other methods as may be necessary for complete removal of each type of deposit. The combination of cleaning methods need not include blasting when preparation of the overall surfaces is carried out by the power tool method; however, brush scrubbing and rinsing with clean water, after mechanical cleaning is completed is required unless the latter is carried out with thoroughness to remove all soluble alkaline deposits. Limit wetting of the surfaces during water-washing operations to the weld area required to be treated, and assure that wetted areas, including any crevices, are completely dry before painting. Welds and adjacent surfaces cleaned thoroughly by blasting alone will be

considered adequately prepared provided that weld spatter not dislodged by the blast stream is removed with impact or grinding tools.

2. Round all sharp edges including those caused by corrosion, to a minimum radius of 1/16 inch to ensure adequate paint coverage. Prime all surfaces as soon as practicable after cleaning and in all cases prior to contamination or deterioration of the prepared surfaces. To the greatest degree possible, clean (and prime) all steel surfaces prior to lengthy outdoor storage.

3.1.C. Coated Ferrous Surfaces Subject to Atmospheric Exposures

Power tool clean coated ferrous surfaces to be overcoated in accordance with SSPC SP 3. The entire surface to be overcoated does not have to be power tool cleaned provided that all surfaces are free of all loose rust, loose paint and visible surface contaminants. Following power tool cleaning, further clean surfaces by power washing using a rotating tip and pressures of 1500 to 5000 psi. Adjust water pressure such that all chalk is removed without significantly eroding the existing coating. After drying, spot prime all surfaces as soon as practicable and in all cases prior to contamination or deterioration of the prepared surfaces.

3.1.D. Ferrous Surfaces Subject to Severe Exposure

1. Dry blast-clean ferrous surfaces subject to extended periods of immersion or as otherwise required to white metal according to SSPC SP 5/NACE No. 1.
2. The blast profile must be angular with a minimum profile height of 1.5 mils.
3. Select appropriate abrasive size and equipment operating parameters to limit maximum surface profile on new steel to 2.5 mils and to prevent increasing existing profile height on previously blasted steel. Where an existing profile is encountered, remove representative spots of existing coating with a chemical stripper and measure and document the existing profile prior to initiating blasting operations. Measure all surface profiles in accordance with ASTM D4417, Method C. Steel shot or other abrasives that do not produce an angular profile must not be used. If recycled blast media is used, maintain an appropriate particle size distribution so that the specified profile is consistently obtained. Round all sharp edges including those caused by corrosion, to a nominal 1/16 inch radius and reblast the areas prior to painting. Remove weld spatter not dislodged by blasting with impact or grinding tools and reblast the areas prior to painting. Surfaces must be dry at the time of blasting. Conduct blast cleaning to SSPC SP 5/NACE No. 1 in the field and, unless otherwise specifically authorized, after final erection. Within 8 hours after blast cleaning, and in any case prior to the deposition of any detectable moisture, contaminants, or corrosion, clean all ferrous surfaces of dust and abrasive particles by brush, vacuum cleaner, and/or blown down with clean, dry, compressed air, and apply the first coat of paint.
4. Authorization to extend this 8 hour coating requirement for shop application, application within dehumidified containment, or other conditions will not be granted. Shop coat all shop blasted surfaces with the first and second coats of the specified paint system. At the time field painting is initiated, apply an additional single spray coat of the zinc rich primer to the epoxy zinc-rich and moisture cure urethane primed surfaces as specified in the paint system instructions. Maintain the shop coating in good condition by cleaning and touching up of areas damaged during the construction period. If pinpoint or general rusting appears, the defective areas must be reblasted and repainted at no added cost to the Government. Prior to the field application of subsequent coats, thoroughly clean soiled areas of the shop coating and all welds or other unpainted or damaged areas must be cleaned and coated in a manner to make them equivalent to adjacent, undamaged paint surfaces.

3.1.E. Damp and Wet Ferrous Metal Surfaces

Blast-clean ferrous surfaces that are wet with condensation or standing or running water, to white metal according to SSPC SP 5/NACE No. 1. The blast profile must be angular with a minimum profile height of 1.5 mils. Select appropriate abrasive size and equipment operating parameters to limit maximum surface profile on new steel to 2.5 mils and to prevent increasing existing profile height on previously blasted steel. Where an existing profile is encountered, remove representative spots of existing coating with a

chemical stripper and measure and document the existing profile prior to initiating blasting operations. Measure all surface profiles in accordance with ASTM D4417, Method C. Steel shot or other abrasives that do not produce an angular profile are not to be used. If recycled blast media is used, maintain an appropriate particle size distribution so that the specified profile is consistently obtained. Round all sharp edges including those caused by corrosion, to a nominal 1/16 inch radius and reblast the areas prior to painting. Remove weld spatter not dislodged by blasting with impact or grinding tools and reblast the areas prior to painting. Immediately after cleaning and prior to the formation of extensive corrosion products, clean all ferrous surfaces of residual abrasive particles, and apply the first coat of paint in accordance with manufacturer's recommendations. A slightly visible rust bloom is permitted on surfaces to be painted.

3.1.F. Non-Ferrous Metal Surfaces
Abrasive blast all non-ferrous metal surfaces to be painted in accordance with SSPC SP 16 in order to roughen the surface and promote adhesion. Only non-metallic abrasives are permitted. All existing coatings must be removed and a minimum surface profile of 1.5 mils must be produced. Measure the surface profile in accordance with ASTM D4417 Method C. Prime all surfaces as soon as practicable after cleaning and in all cases prior to contamination or deterioration of the prepared surfaces.

3.2. WELD INSPECTION

3.2.A. General

1. Before application paint, a structural engineer shall develop a Welding Quality Control Plan to identify critical weldments of fracture critical members.

3.2.B. Test Coupon Acquisition and Qualifications

1. Contractor must fabricate welding test coupons at designated areas that replicate the weld joint configuration, base material, and welding process parameters to be used on the actual production welds.
2. These coupons are subject to weldability testing including visual inspection, destructive tests (bend, tensile, impact), and nondestructive examination (NDE) to verify weld quality and compliance with codes such as ASME Section IX and AWS D1.1/D1.6
3. Welding Procedure Qualification Records (PQRs) require such coupons to be welded under the supervision of the Contractor, with weld variables and testing results fully documented.
4. Coupons must match production weld thickness, joint design, materials, and position as closely as possible to ensure accurate validation of welding procedures and welder performance.

3.2.C. Welding Procedure Specification (WPS) Compliance

1. Weld procedure used on coupons must be fully qualified and documented to provide directions to welders, including essential and supplementary variables such as welding process, base metals, consumables, preheat, interpass temperature, and travel speed.
2. Contractor is responsible for ensuring that welders strictly follow the WPS during coupon fabrication and production welding.

3.2.D. Welder Performance Qualifications

1. Welders must demonstrate skill by producing coupons that meet visual, mechanical, and acceptance criteria. Their qualifications are recorded and maintained rigorously, including requalification if any essential variable changes or if the welder has not used the process within 6 months.

3.2.E. Documentation and Traceability

1. Complete traceability of welding materials (e.g., filler metals, fluxes) and equipment calibration must be maintained and documented.
2. Welding Quality Control Plan, inspection records, and test results related to coupons and production welds must be submitted and approved prior to commencement of welding.

3.2.F. Environmental and Safety Controls During Welding

1. Critical Welding includes requirements to ensure work is conducted in permitted areas that are fire safe and protected from contamination, moisture, and adverse environmental conditions which may compromise the weld quality.

3.2.G. Use of Weld Maps

1. Weld maps identifying locations of specific welds and corresponding WPSs provide direction and facilitate inspection and repair planning.

3.3. PAINT APPLICATION

3.3.A. General

1. Unless otherwise specified, the finished coating must be free from holidays, pinholes, bubbles, runs, drops, ridges, waves, laps, excessive or unsightly brush marks, and variations in color, texture, and gloss. Do not initiate the application of initial or subsequent coatings until the COR has verified that atmospheric conditions and the surfaces to be coated are satisfactory. Each paint coat must be applied in a manner that will produce an even, continuous film of uniform thickness.
2. Provide special attention to edges, corners, crevices, seams, joints, welds, rivets, corrosion pits, and other surface irregularities to ensure that they receive an adequate thickness of paint. Spray equipment must be equipped with traps and separators and where appropriate, mechanical agitators, pressure gauges, pressure regulators, and screens or filters.
3. Air caps, nozzles, and needles must be as recommended by the spray equipment manufacturer for the material being applied. Airless-type spray equipment may be used only on broad, flat, or otherwise simply configured surfaces, except that it may be employed for general painting if the spray gun is equipped with dual or adjustable tips of proper types and orifice sizes. The use of airless-type equipment is not allowed for the application of vinyl paints.

3.3.B. Anodes

1. Per original Specification 21-05, all anode <u>connections</u> (welds) shall be painted the same as the radial gates.
2. The anodes themselves shall not be painted. Contractor to ensure that anodes are not coated in any manner.

3.3.C. Mixing and Thinning of Coatings other than the Vinyl Formulations

Paints must be thoroughly mixed, strained where necessary, and kept at a uniform composition and consistency during application. Incorporate dry-powder pigments specified to be added at the time of use, into the vehicle or base paint with the aid of powered stirrers, in a manner that will produce a smooth, homogeneous mixture free of lumps and dry particles. Where necessary to suit conditions of the surface temperature, weather, and method of application, the paint may be thinned immediately prior to use. Thinning, induction time and pot life must comply with the manufacturers written instructions. Bring any paint that has been stored at a temperature below the manufacturer's application temperature range up to at least 70°F before being mixed and thinned. Its temperature in the spray tank or other working container must not fall below the manufacturer's specified application temperature range during the application. Any paint that has deteriorated in any manner to a degree that it cannot be restored to essentially its original condition by customary field-mixing methods must not be used and must be removed from the project site. In order to determine its suitability for application, resample and submit for testing any paint and thinner that is more than 1 year from the date of manufacture or last documented testing. Moisture cure urethane paint must be resampled and resubmitted for testing to determine its suitability for application whenever the paint is more than six months beyond the date of manufacture on the container or more than 6 months beyond the last documented laboratory testing.

3.3.D. Time between Surface Preparation and Painting
Surfaces that have been cleaned and/or otherwise prepared for painting must be primed as soon as practicable after such preparation has been completed but, in any event, prior to any deterioration of the prepared surface.

3.3.E. Method of Paint Application
Unless otherwise specified, paint must be applied by brush, roller, or spray to ferrous and nonferrous metal surfaces. Special attention must be directed toward ensuring adequate coverage of edges, corners, crevices, pits, rivets, bolts, welds, and similar surface irregularities. Other methods of application to metal surfaces are subject to the specific approval of the COR. Paint on plaster, concrete, or other nonmetallic surfaces must be applied by brush, roller, and/or spray.

3.3.F. Coverage and Film Thickness
Film thickness or spreading rates must be as specified hereinafter. Where no spreading rate is specified, apply the paint at a rate consistent with the manufacturer's written instructions. In any event, the combined coats of a specified paint system must completely hide base surface and the finish coats must completely hide undercoats of dissimilar color.

3.3.G. Coating Thickness Measurement on Metal
Where dry film thickness requirements are specified for coatings on metal surfaces, make measurements with a gage qualified in accordance with paragraph Coating Thickness Gage Qualification and calibrated and used in accordance with ASTM D7091. Prior to each use, establish the Base Metal Reading (BMR) for the gage as specified in the test method. Verify the accuracy of the gage using plastic shims as specified by the test method both prior to and following each set of measurements. Perform dry film measurements on all areas of the structure being coated in accordance with SSPC PA 2 with Level 1 thickness restrictions. Perform a sufficient number of thickness measurements to ensure that every area on every member is in compliance with the requirements of this contract. Report all thickness measurements as the mean for each spot determination.

3.3.H. Progress of Painting Work
Where field painting on any type of surface has commenced, complete the entire painting operation on that portion of the work, including priming and finishing coats, as soon as practicable and without prolonged delays. Allow sufficient time between successive coats to permit them to dry properly for recoating, modifying this period as necessary to suit adverse weather conditions. Paint is considered dry for recoating when it feels firm, does not deform or feel sticky under moderate pressure of the finger, and the application of another coat of paint does not cause film irregularities such as lifting or loss of adhesion of the undercoat. All coats of all painted surfaces must be unscarred and completely integral at the time of application of succeeding coats. At the time of application of each successive coat, clean undercoats of dust, grease, overspray, or foreign matter by means of air blast, solvent cleaning, or other suitable means. Cement and mortar deposits on painted steel surfaces, not satisfactorily removed by ordinary cleaning methods, must be brush-off blast cleaned and completely repainted as required. If necessary for establishment of good adhesion, scuff sand high gloss undercoats, and solvent wipe, or otherwise treat prior to application of a succeeding coat. Apply field coats on metal after erection except as otherwise specified and except for surfaces to be painted that will become inaccessible after erection.

3.3.I. Contacting Surfaces
When riveted or ordinary bolted contact is to exist between surfaces of ferrous or other metal parts of substantially similar chemical composition, such surfaces will not be required to be painted, but any resulting crevices must subsequently be filled or sealed with paint. Contacting metal surfaces formed by high-strength bolts in friction-type connections must not be painted. Where a nonmetal surface is to be in riveted or bolted contact with a metal surface, the contacting surfaces of the metal must be cleaned and given three coats of the specified primer. Unless otherwise specified, corrosion-resisting metal surfaces, including cladding therewith, must not be painted.

3.3.J. Drying Time Prior to Immersion
Minimum drying periods after final coat prior to immersion are: epoxy and moisture cure urethane systems at least 5 days, vinyl-type paint systems at least 3 days, and cold-applied coal tar systems at least 7 days. Increase minimum drying periods twofold if the drying temperature is below 65°F and/or if the immersion exposure involves considerable abrasion.

3.3.K. Protection of Painted Surfaces
Where shelter and/or heat are provided for painted surfaces during inclement weather, such protective measures must be maintained until the paint film has dried and discontinuance of the measures is authorized. Items that have been painted must not be handled, worked on, or otherwise disturbed until the paint coat is fully dry and hard. Store all metalwork coated in the shop or field prior to final erection out of contact with the ground in a manner and location that will minimize the formation of water-holding pockets; soiling, contamination, and deterioration of the paint film. Damaged areas of paint on such metalwork must be cleaned and touched up without delay. Apply the first field coat of paint within a reasonable period of time after the shop coat and in any event before weathering of the shop coat becomes extensive.

3.3.L. Vinyl Paints

1. General
Vinyl paints must be thoroughly mixed and kept at a uniform composition and consistency during application. Any paint that has deteriorated in any manner to a degree that it cannot be restored to essentially its original condition by customary field-mixing methods must not be used and must be removed from the project site. In order to determine its suitability for application, resample and submit for testing any paint and thinner that is more than 1 year from the previous documented testing. Each applied coat of vinyl paint must be free from any holidays, pinholes and bubbles. The finished coating must be free of excessive or unsightly brush marks, runs, drops, ridges, waves, laps and variations in color, and texture. Vinyl paints must be spray applied, except that areas inaccessible to spraying must be brushed. Vinyl Paints (Formulas V-102E and V-766E) are ready-mixed paints designed to be spray applied over a wide range of ambient temperatures by field thinning with the proper type and amount of thinner. For spray application, they must be thinned as necessary up to approximately 25% (1 quart/gallon of base paint) with the appropriate thinner; when ambient and steel temperatures are above normal, up to 40% thinning may be necessary for satisfactory application. The zinc-rich vinyl paint (Formula VZ-108D) will normally require thinning only under certain weather conditions.

2. Thinners
a. Thinners for vinyl paints must be as shown in Table 11.

Table 11 - Vinyl Paint Thinners

APPROXIMATE AMBIENT AIR TEMPERATURE (Degrees F)	THINNER
Below 50	MEK
50 - 70	MIBK
Above 70	MIAK

b. Vary the amount of thinner to provide a wet spray and avoid deposition of particles that are semidry when they strike the surface. Do not apply vinyl paints when the temperature of the ambient air and receiving surfaces is less than 35°F nor when the receiving surfaces are higher than 125°F. Each double spray coat of vinyl paint must consist of a preliminary stripe coat applied by spray, brush, or combination thereof on edges, corners, interior angles, pits, seams, crevices, junctions of joining members, rivets, weld lines, and similar surface irregularities followed by an overall double spray coat. A double spray coat of vinyl-type paint consists of

applying paint to a working area of not less than several hundred square feet (meters) in a single, half-lapped pass, followed after drying to at least a near tack-free condition by another spray pass applied at the same coverage rate and where practicable at right angles to the first. Rivets, bolts, and similar surface projections must receive sprayed paint from every direction to ensure complete coverage of all faces. Pits, cracks, and crevices must be filled with paint insofar as practicable, but in any event, all pit surfaces must be thoroughly covered and all cracks and crevices must be sealed off against the entrance of moisture. Keep fluid and atomization pressures as low as practicable consistent with good spraying results. Application of more than 2.0 mils, average dry film thickness, of vinyl paint per double spray coat typically indicates semidry application and must be avoided. Except where otherwise indicated, an undercoat of the vinyl-type paint may receive the next coat any time after the undercoat is tack-free and firm to the touch, provided that no speedup or delay in the recoating schedule results in film defects such as sags, runs, air bubbles, air craters, or poor intercoat adhesion.

c. Do not walk on, or otherwise abrade the prime coat or any other coat until it has hardened sufficiently to resist mechanical damage.

3. Vinyl Zinc-Rich Primer

a. Primer must be field mixed combining components A, B, and C in accordance with label instructions. After mixing, keep the paint covered at all times to avoid contamination and apply the mixed paint within 8 days after mixing. When the ambient and/or steel temperature is below about 80°F, the paint will not normally require thinning; however, the paint must at all times contain sufficient volatiles (thinners) to permit it to be satisfactorily atomized and to provide a wet spray and to avoid deposition of particles that are semidry when they reach the surface. The paint must be stirred continuously during application at a rate that will prevent the zinc dust from settling. When spraying is resumed after any interruption of longer than 15 minutes, the entire length of the material hose must be whipped vigorously until any settled zinc is redispersed.

b. Long periods of permitting the paint to remain stagnant in the hose must be avoided by emptying the hoses whenever the painting operation is to be suspended for more than 1 hour. Keep the material (paint) hoses as short as practicable, preferably not more than 50 feet in length. Equipment used for spraying this zinc primer must not be used for spraying other vinyl-type paints without first being thoroughly cleaned, since many of the other paints will not tolerate zinc contamination. Do not use any type of hot spray. An average dry film thickness of up to 2.5 mils may be applied in one double-spray coat. Unless specifically authorized, any coat of VZ-108 must receive a succeeding coat within 8 days.

4. Repair of Vinyl Coating Defects

a. Coating defects should be repaired when they are first observed but must be repaired prior to coating acceptance. Runs and sags may be brushed out before becoming dry. Pinholes must be physically closed by scrubbing with a brush wet with ketone solvent before the succeeding coat is applied.

b. Overspray that will not be melted smooth by the succeeding coat must be removed by scrubbing with a brush wet with ketone solvent. Minor overspray in the final coat that results only in a reduced gloss at the outer limits of the spray pattern is not considered a defect and requires no additional attention. Insufficient thickness or incomplete hiding must be corrected with additional paint before the succeeding coat is applied. If any defect extends to the substrate, it must be determined if the substrate is corroding. In the case of pinholes it may be necessary to use

c. magnification to observe the substrate. If the substrate is showing any corrosion, the required surface preparation must be restored by spot blasting, and the entire coating system replaced at that location.

d. Following the spot blasting the edges of the remaining coating must be scrubbed with ketone solvent to assure all remaining coating is tightly adhering before the new coating is applied. If VZ-108 does not receive the required succeeding coat within the required 8 days, it must be removed by abrasive blasting and replaced.

3.4. PAINT SYSTEMS APPLICATION

3.4.A. The required paint systems and the surfaces to which they are to be applied are shown in this paragraph, and/or in the drawings. Supplementary information follows.

3.4.B. Fabricated and Assembled Items
Items that have been fabricated and/or assembled into essentially their final form and that are customarily cleaned and painted in accordance with the manufacturer's standard practice will be exempted from equivalent surface preparation and painting requirements described herein, provided that:

1. Surfaces primed (only) in accordance with such standard practices are compatible with specified field-applied finish coats.
2. Surfaces that have been primed and finish painted in accordance with the manufacturer's standard practice are of acceptable color and are capable of being satisfactorily touched up in the field.
3. Items expressly designated herein to be cleaned and painted in a specified manner are not coated in accordance with the manufacturer's standard practice if different from that specified herein.

3.4.C. Surface Preparation
The method of surface preparation and pretreatment shown in the tabulation of paint systems is for identification purposes only. Cleaning and pretreatment of surfaces prior to painting must be accomplished in accordance with detailed requirements previously described.

3.4.D. System No. 3
Apply paint by spray to an average dry film thickness of a minimum of 6.0 mils for the completed system with a minimum thickness at any spot of not less than 5.0 mils. Build up approximately 3.0 mils with no spot less than 2.5 mils of the total dry film thickness with Formula V-766E paint. The specified film thickness must be attained in any event, and any additional coats needed to attain specified thickness must be applied at no additional cost to the Government. Attaining the specified film thickness in fewer than the prescribed number of coats or spray passes will be acceptable provided the heavier applications do not cause pinholes, bubbles, blisters, or voids in the dried film. The application of more than 2.0 mils (dry film thickness) per double spray coat or more than 1.0 mil per single spray pass typically indicates the paint is not being applied wet enough to properly flow out and must be avoided.

3.4.E. System No. 3-A-Z

1. Apply paint by spray to an average dry film thickness of a minimum of 6.5 mils for the completed system, and a thickness at any spot of not be less than 5.5 mils. The dry film thickness of the zinc-rich coat must be approximately 2.5 mils with no spot less than 2.0 mils. The thickness of the V-766E mid coat must be sufficient to completely hide the primer.
2. Specified film thickness, including the prescribed total, must be attained in any event, and any extra coats needed to attain specified thickness must be applied at no additional cost to the Government. Attaining of the specified film thickness in fewer than the prescribed number of coats or spray passes will be acceptable provided heavier applications do not cause pinholes, bubbles, blisters, or voids in the dried film. The application of more than 2.0 mils (dry film thickness) per double spray coat or more than 1.0 mil per single spray pass of nonzinc paint typically indicates the paint is not being applied wet enough to properly flow out and must be avoided.

3.4.F. Protection of Nonpainted Items and Cleanup
Maintain walls, equipment, fixtures and all other items in the vicinity of the surfaces being painted free from damage by paint or painting activities. Promptly repair any paint spillage and painting activity damage.

3.5. INSPECTION

3.5.A. Surface preparation and painting inspections must be conducted by an inspector certified as meeting one of the following designations: SSPC-PCI Level 2, NACE-CIP Level 2.

3.5.B. The inspector will inspect, and document all work phases and operations on a daily basis and submit daily QC reports. As a minimum the daily report must contain the following:

1. Inspections performed, including the area of the structure involved and the results of the inspection.
2. Surface preparation operations performed, including the area of the structure involved, the mode of preparation, the kinds of solvent, abrasive, or power tools employed, and whether contract requirements were met.
3. Thinning operations performed, including thinners used, batch numbers, and thinner/paint volume ratios.
4. Application operations performed, including the area of the structure involved, mode of application employed, ambient temperature, substrate temperature, dew point, relative humidity, type of paint with batch numbers, elapsed time between surface preparation and application, elapsed time for recoat, condition of underlying coat, number of coats applied, and if specified, measured dry film thickness or spreading rate of each new coating.

3.6. RECORD DRAWINGS

3.6.A. Record Drawings shall show final details of all paint applied including system number and locations.

3.6.B. Any changes to the placement of, dimensions of, or types of material from what is shown on the Contract Drawings shall be noted on the Record Drawings.

3.6.C. If different suppliers are used for different portions of the project, identify which areas of work match which suppliers.

3.6.D. Section 01.78.39 may list additional requirements for the Record Drawings.

--End of Section--

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International Boundary and Water Commission
United States Section

TECHNICAL SPECIFICATIONS
DIVISION 35
WATERWAY CONSTRUCTION

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SECTION 35.22.46
TAINTER GATES *********

PART 1 - GENERAL

1.1. SECTION INCLUDES

Part 1 - General 1
1.1. Section Includes 1
1.2. Related Requirements 1
1.3. Reference Standards 1
1.4. Submittals 2
1.5. Record Documents 3
1.6. Measurement and Payment 3
1.7. General 3
1.8. Work Process Procedure 3
1.9. Safe Access Plan 5
Part 2 - Products 5
2.1. Gate Seals 5
2.2. Seal Bar, Angle, and Hardware 6
2.3. Roller Assembly 6
2.4. Lubricating Grease 6
2.5. Anodes 7
2.6. Other Materials 7
2.7. Documentation 8
Part 3 - Execution 8
3.1. Preparation 8
3.2. Installation 8
3.3. Inspections/Certifications 9
3.4. Concrete Repair 9
3.5. Record Drawings 10
--End of Section-- 10

1.2. RELATED REQUIREMENTS

1.2.A. Section 00.31.19-Existing Condition Information *******

1.2.B. Section 01.20.00-Measurement and Payment

1.2.C. Section 01.33.00-Submittal Procedures

1.2.D. Section 01.35.23-Safety

1.2.E. Section 01.43.26-Testing and Inspection Agencies

1.2.F. Section 01.57.00-Temporary Controls for Work Areas

1.2.G. Section 01.61.00-Common Product Requirements

1.2.H. Section 01.78.39-Record Drawings

1.3. REFERENCE STANDARDS

1.3.A. American National Standards Institute (ANSI)

1. ANSI/ASME B4.1-1967 (R2020) Preferred Limits and Fits for Cylindrical Parts

1.3.B. ASTM International (ASTM)

1. ASTM A36 Standard Specification for Carbon Structural Steel.
2. ASTM A108-24 Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished
3. ASTM A240-25 Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
4. ASTM A668-23 Standard Specification for Steel Forgings, Carbon and Alloy, for General Industrial Use
5. ASTM D395-18(2025) Standard Test Methods for Rubber Property - Compression Set
6. ASTM D412-16(2021) Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
7. ASTM D572-12(2020) Standard Practices for Securement of Cargo in Intermodal and Unimodal Surface Transport
8. ASTM D2240-15(2021) Standard Test Method for Rubber Property - Durometer Hardness
9. ASTM F593-24 Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs
10. ASTM B505 – 18(2023) Standard Specification for Copper Alloy Continuous Castings

1.3.C. Bureau of Reclamation (USBR)

1. USBR Guide to Concrete Repair, 2nd Edition, August 2015
www.usbr.gov/tsc/techreferences/mands/mands-pdfs/Guide2ConcreteRepair2015_Final.pdf

1.3.D. Department of Defense

1. MIL-PRF-10924 Grease, Automotive and Artillery, Amendment 2 November 29, 2012

1.3.E. SAE International (SAE)

1. SAE J2360-202205 Automotive Gear Lubricants for Commercial and Military Use

1.4. SUBMITTALS

1.4.A. Submittals shall be transmitted by the Contractor in accordance with the requirements of Section 01.33.00. The Contractor Quality Control (CQC) System Manager shall be responsible for certifying that all submittals are in compliance with the Contract requirements.

1.4.B. Required submittals in this Section include:

1. Work Process Procedure
2. Product Data
Prior to installing any items, the Contractor shall submit to the COR all required product information. All proposed products to be used shall meet or exceed the minimum requirements for the products and their proper use within the project.
   a. Manufacturer's literature, catalog cut sheets, or other publications that provide data on the product selected.
   b. Manufacturer's recommended installation procedures.
   c. Manufacturer's test reports showing that the material meets the requirements herein.
3. Certificates
   a. Provide mill certificates of all sizes and grades of metal that will be used on this project.
   b. Provide manufacturer's certifications/County of Origin certificates to verify any Buy American Acts that are in this Contract.
   c. Provide documentation noting percentage of recycled content for the metal used.

4. Environmental Compliance
   Submit documentation showing that all applicable laws, rules, and regulations are being followed for project-specific locations (Section 01.57.00).
5. Schedule of Values per Section 01.20.00

1.4.C. If this information has already been submitted for other work, it does not need to be resubmitted.

1.5. RECORD DOCUMENTS

1.5.A. Required documents to be provided to Government in this Section include:

1. Delivery Tickets
   A legible copy of all batch/delivery tickets shall be furnished to the COR. Attach all tickets with that day's quality control report.
2. Disposal Records
   Submit receipts of acceptance of material by landfill or documentation indicating proper disposal per Section 01.74.19.
3. All manuals, warranties, and maintenance documentation per Sections 01.77.19 and 01.78.36.

1.6. MEASUREMENT AND PAYMENT

1.6.A. Measurement
This Bid Item will be paid on the lump sum basis and no activity will be measured in the field for the purpose of payment for this individual activity. Progress payments for items listed in the Schedule of Values are based on the percentage complete, as determined by the COR. All costs in connection therewith shall be included in the Schedule of Values for the items to which the work is incidental thereto.

1.6.B. Payment

1. This Bid Item will be paid for based on the lump sum price identified in Section B of the Contract Provisions identified as "**Rehabilitation of Radial Gates**."
2. Payment constitutes full compensation for furnishing, delivering, handling, and/or installing all material, labor, services, testing, tools, equipment, and for other incidental work necessary to meet Contract requirements applicable. The Contractor will not be allowed payment for rejected items.
3. The progress payments are made to benefit the Contractor. These payments are made based upon preliminary field inspections, preliminary and testing data. Progress payments do not constitute acceptance of any portion of the work and do not reduce the Contractor's liability to replace unsatisfactory work, material, or equipment.

1.6.C. Estimated Quantities

1. The estimated quantities provided in the Bid Schedule and/or Contract Drawings are for comparative bidding only. The Government does not express or imply that the actual amount of work or materials will correspond to the estimated quantities. The Contractor shall make no claim nor receive any compensation for anticipated profits, loss of profit, damages, or any extra payment due to any difference between the quantities of work actually completed, materials furnished, and/or equipment furnished, and the estimated quantities.
2. FAR 52.211-18, Variation in Estimated Quantities, does <u>not</u> apply to this item.

1.7. GENERAL

1.7.A. Amistad Dam has 8 tainter gates on the United States' side of the dam. These gates sit on the ogee crest of the dam and are 50 feet wide by 54 feet tall. The gates shall be rehabilitated by replacing all seals (side seals, base seals, and seal bars), by re-tensioning the gate cables, and by recoating/painting the entire gate.

1. The Contractor shall remove, dispose, and replace side seals, bottom seals, seal bars, side seal angle bar, and seal fasteners with new stainless-steel fasteners on all US radial gates.

2. The Contractor shall make repairs and replacements of side and bottom seal assembly components as needed to perform seal replacement.
3. The gate side rollers and assembly shall be inspected and determine if the roller can be repaired, or if total replacement is required, in kind material shall be used. Roller should be lubricated for functionality of gate. The Contractor will submit photos verifying the clearance between the pier face and the new rollers to be the same as shown on the drawing 18183.
   a. Visual and Functional Inspection
      (1) Examine the rollers carefully for signs of wear such as flat spots, cracks, deformation, or excessive corrosion.
      (2) Check the roller bearings for smooth rotation; if a roller does not spin freely or makes grinding noises, it may require repair or replacement.
      (3) Inspect the entire assembly for loose bolts, worn brackets, or misalignment that could affect roller performance.
   b. Repair or Replace
      (1) If the damage or wear on a roller is minor (e.g., superficial rust or slight bearing looseness), repair or refurbishment may be possible by cleaning, lubricating, and replacing worn bearings.
      (2) If rollers are cracked, severely worn, or bearings are seized beyond repair, total replacement of the roller is recommended for reliable gate operation.
   c. Lubrication
      (1) Use a high-quality lubricant suitable for metal rolling components, such as lithium-based grease or a synthetic roller lubricant.
      (2) Apply lubricant to all moving parts of the roller, including bearings and axle points.
4. New shims (painted) of various sized should be on hand and installed after gate is painted.
5. The Contractor shall provide necessary tensioning of cables and gate alignment for all US radial gates. Contractor to verify wire rope tension on all of the gates is correct to ensure even lifting and load sharing across all wire ropes, make adjustments as necessary based on the readings.
6. Wire ropes shall be moved and lifted above the tainter gates during the blasting and painting.
7. The Contractor shall inspect and lubricate of gate hitch blocks "U" bolts and gate roller guide assembly. The Contractor shall make repairs and replacements as needed to perform proper tensioning and gate alignment of each gate.

1.7.B. Wheel-mounted crane loading shall not exceeded the bridge inventory loading of 25 tons per axle and crane set ups shall adhere to restrictions noted in "*Amistad Dam Project Del Rio, Texas, Structural Analysis of Bridge Deck for International Boundary and Water Commission*" (see Section 00.31.19 1.4.A.).

1.7.C. All radial gates will not be available at one time. The Government shall determine which radial gate will be available for Contractor to execute the work under this Contract.

1.8. WORK PROCESS PROCEDURE

1.8.A. The Contractor shall submit a Work Process Procedure document detailing how they will perform all tasks required.

1.8.B. Contractor shall review all available drawings, specifications, operating manuals, and Sequence of operations to understand gate operability and functionality. The COR can coordinate a meeting between the Contractor and USIBWC O&M personnel to answer questions.

1.8.C. The Contractor shall submit anticipate equipment specifications and drawings for initial review in this document. Prior to finalize purchase of the new components, submittals covering each product must be provided separately and compliance confirmed by COR.

1.8.D. The document must be reviewed and compliance confirmed by the COR before any sitework can begin.

1.9. SAFE ACCESS PLAN

1.9.A. Safe Access Plan refers to a combination of fall protection, scaffolding, manlifts, and other access features that must be compliance confirmed prior to commencing any work on the radial gates.

1.9.B. Each part of the Safe Access Plan can be developed individually but shall work together to minimize hazards to the greatest extent possible.

1.9.C. Regulatory Requirements
The Contractor shall design, install, and maintain access/fall protection systems in accordance with the detailed specifications set out in Federal OSHA Standards and USACE EM 385-1-1.

1.9.D. The Contractor shall submit all applicable APP plans as part or as an addendum to the Accident Prevention Plan required under Section 01.35.23 Paragraph 1.10.A.1.j.

1.9.E. Requirements

1. The Contractor shall submit all items listed in Section 01.35.23 Paragraph 1.10.A.1.j.
2. Design calculations for scaffolding shall be submitted to the COR sealed by a professional engineer registered in the State of Texas.
3. Each plan shall designate the competent person onsite who will be inspecting the applicable safety features.

1.9.F. Review of the Contractor's Excavation/Trenching Plan by the COR will only be in regard to compliance with this Section and will not constitute approval by the COR nor relieve Contractor of obligations under State and Federal excavation, shoring, and trench safety regulations.

PART 2 - PRODUCTS

2.1. GATE SEALS

2.1.A. Provide hollow bulb neoprene seals with a tail (sometimes called a 'P' seal or musical note seal) for the gate seals. Per drawing 18183, seals shall be:

1. 5 inches long
2. Bulb shall be 1.75 inches in diameter
3. Bulb shall have ¾ inch hollow area
4. 9/16 inches thick

2.1.B. Neoprene Gate Seals

1. Seals shall be compounded of not less than 70% by volume of the basic neoprene polymer and the remainder consisting of reinforcing carbon black, zinc oxide, accelerators, vulcanizing agents, antioxidants, and plasticizers.
2. Neoprene gate seals shall meet Table 12.

Table 12 - Neoprene Gate Seals

Physical Test	Value	ASTM
Tensile Strength	2,500 psi min	D412
Elongation at Break	450% min	D412
300% Modulus	900 psi min	D412
Durometer Hardness (Shore Type A)	60 to 70	D2240
Water Absorption	5% max by weight	N/A
Compression Set	30% max	D395
Tensile Strength (aging 48 hours)	80% min of tensile strength	D572

2.2. SEAL BAR, ANGLE, AND HARDWARE

2.2.A. Seal bars shall be ASTM A240 Type 410 or 410S stainless steel.

2.2.B. Side seal angles shall be ASTM A36 carbon structural steel or ASTM A709 Structural Steel for Bridges.

2.2.C. Bolts and nuts washers shall be ASTM F593 with matching washers. Allowable alloys include 410, 416, 416Se, and 431.

2.2.D. Neoprene gaskets shall meet Table 12.

2.2.E. Size materials per drawing 18183, except the 11/16" diameter holes for the angle and seals shall be oversized or long slot. Contractor shall submit for approval all measured and mapped existing bolt holes for each gate before drilling holes on angles.

2.2.F. Use an anti-galling compound to be place on threads during assembly.

2.2.G. Use a nylon or plastic waster to isolate the stainless steel from the carbon steel.

2.3. ROLLER ASSEMBLY

2.3.A. Roller

1. 3.25 inch x 7 inch diameter
2. Cold rolled steel meeting ASTM A108
3. Minimum tensile strength 60 ksi
4. Minimum yield strength 30 ksi
5. Minimum Rockwell hardness (HRBW) 100

2.3.B. Bronze Bushing

1. 2-inch internal diameter
2. 2.25-inch external diameter
3. 2.5 inch long
4. ANSI B4.1 RC-7, running free fit.
5. Aluminum Bronze ASTM B505
   a. C95400

2.3.C. Bronze Washers

1. 2-inch internal diameter
2. 3-inch external diameter
3. 0.25 inch thick
4. Aluminum Bronze ASTM B505
   a. C95400
5. Drawing 18183, Detail 17 calls out an 1/8-inch fillet weld of the seal nut to the downstream side of the skin plate. Change this detail to a double-nut or SS lock washer D/S of a non-conductive washer (see redlines on drawing 18183).

2.3.D. Roller Pin

1. 2 inch outside diameter
2. ASTM A240 Type 410 or 410S stainless steel

2.3.E. Retaining Ring

1. ASTM A240 Type 410 or 410S stainless steel

2. If retaining ring requires specialized tool to install or remove, provide tool per Section 01.61.00 Paragraph 3.4.

2.3.F. Grease Fitting

1. Zerk fitting of same size as existing. If fitting size is not available, confirm alternate size with COR.
2. Stainless steel

2.4. LUBRICATING GREASE

2.4.A. Wire ropes/cables shall be lubricated with grease meeting SAE J2360.

2.4.B. Rollers and trunnion pin shall be lubricated with grease meeting MIL-PRF-10924.

2.5. ANODES

2.5.A. Replace all anodes in kind material or approved equal. Each anode is welded to gate with four core straps. Every radial gate has 9 magnesium Dow Chemical, 44W-D coated block anodes, each measuring approximately 19” x 9” x 4” (L x W x T).

2.5.B. Weld each anode to the gate with 4 core straps as shown on drawing 18304 or approved method. Ensure all welds are coated/painted with same system as radial gate while protecting anode from being coated.

2.5.C. Bolt Hole Spacing

1. Ensure the minimum spacing of the bolt holes is not less than 2 2/3 times the nominal diameter or the preferred distance of 3 times the diameter as per American Institute of Steel Construction (AICS) standard, Section J3.4.
2. Submit any variances from the specified dimensions or bolt hole spacing for approval to the COR.
3. Use epoxy material or other suitable filler to plug the original holes securely.
4. Ensure new holes are drilled accurately by marking the new location precisely, using the correct drilling equipment, and correct techniques.

2.6. OTHER MATERIALS

2.6.A. If the Contractor needs to repair or replace other materials on the radial gates, the specifications listed in Table 13 shall be followed.

Table 13 - Current Specification Standards

Original Reference	Current Standard
ASTM A36	ASTM A709
ASTM A235 Class C-1	ASTM 668 Class C
ASTM A325	ASTM F3125
Cold Rolled Steel	ASTM A108
Corrosion Resistant Steel	ASTM A240 Type 410 or 410S
Fed Spec FF-B-575b	ASTM F593 Type 410, 416, 416Se, or 431
Fed Spec FF-N-836a	ASTM F593 Type 410, 416, 416Se, or 431
Fed Spec QQ-L-225 Comp 8	ASTM B505 – 18
Fed Spec VV-G-632	MIL-PRF-10924
Fed Spec VV-L-751b	SAE J2360
Fed Std 601 Method 4111	ASTM D412
Fed Std 601 Method 4121	ASTM D412
Fed Std 601 Method 4131	ASTM D412
Fed Std 601 Method 3021	ASTM D2240
Fed Std 601 Method 3311	ASTM D395
Fed Std 601 Method 6631	None
Fed Std 601 Method 7111	ASTM D572

Original Reference	Current Standard
AISC Section J3.4	AISC Section J3.4

2.7. DOCUMENTATION

2.7.A. The Contractor shall furnish mill test reports or manufacturer's certification to the USIBWC for each lot or shipment of steel and iron materials.

2.7.B. The Contractor shall furnish documents, certification, or reports from manufacturer noting percentage of recycled content for each lot or shipment of steel and iron materials.

2.7.C. Verify any Buy American Acts that are in this Contract.

PART 3 - EXECUTION

3.1. PREPARATION

3.1.A. The Contractor shall coordinate work on each gate with the COR.

3.1.B. Replacement of seals, seal bars, angle, and associated fasteners as well as re-tensioning the gates shall be performed after the gate has been repainted.

3.2. INSTALLATION

3.2.A. Seals
After the gate has been repainted, the Contractor shall remove, dispose, and replace side seals, bottom seals, seal bars, side seal angle bar, and seal fasteners with new stainless-steel fasteners on all of the 8 radial gates on the US side.

1. The Contractor shall make repairs and replacements of side and bottom seal assembly components as needed to perform seal replacement.
2. Ensure that side gate seals and bottom gate seals are field spliced as noted on drawing 18182 Detail 18.
3. Perform inspection for amount of deformation at the bottom seal bulbs. If much of the bulb is not deformed (indicating little to no contact with sill), then increase the length of the seal by approximately 1/8 inches.

3.2.B. Rollers

1. After all the rollers are installed, the Contractor shall verify the 3/8" clearance between the pier face and the new roller by inspecting and submitting photos showing the 3/8" clearance

3.2.C. Tensioning of Cables and Gate Alignment
The Contractor shall make repairs and replacements as needed to perform proper tensioning and gate alignment of each gate.

1. Clean ropes fully and inspect from the drum to the gate anchorage including the "U" bolts and roller guide assemblies.
2. Measure wire rope tension on all the gates to verify even lifting and load sharing across all wire ropes, adjust as necessary based on the readings.
3. Adjust both set of cables to be in light tension, not totally slack at the closed position.
4. There shall be at most 0.05% tension difference from the wire rope bundles on each side of the gate.
5. There shall be at most 5% tension difference between each of the cable ropes within a bundle.
6. Adjust rope cables tension at the hitch block and ensure these have the correct tension between the cable ropes and the cable bundles to ensure proper functionality of the tainter gates.

7. Operate gate to confirm functionality of the gates. Repeat until all cables are in tension as specified tension tolerance and gate is functional through OPEN and CLOSING operation.
8. Thoroughly document all cables tensioned and the amount of tension on each cable prior to work and after re-tensioning.

3.3. INSPECTIONS/CERTIFICATIONS

3.3.A. Each gate shall be raised and lowered with the COR in attendance to ensure proper installation of components and tensioning of cables.

3.3.B. If gate is found to be out-of-alignment or indicating friction, the gate shall be inspected and repairs made to ensure proper gate function. Retest the gate with the COR present to show that issues have been corrected.

3.4. CONCRETE REPAIR

3.4.A. Repair concrete which will be exposed to view in a manner which will result in a concrete surface with uniform appearance.

3.4.B. Defective and unsound concrete areas larger than described above for each surface shall be repaired.

1. Repair areas shall be defined by ½ inch deep dovetailed saw cuts in a rectangular pattern, the defective concrete removed by chipping and the void repaired with replacement concrete.
2. Repair spalls by saw-cutting and chipping at least ½ inch deep, perpendicular to the surface to eliminate feather edges.

3.4.C. Repair to appropriate surface class:

1. Chip away all loose or broken material to sound concrete where porous, spalled, or honeycombed areas are visible after form removal.
2. Repair shallow cavities using a cement mortar or epoxy mortar as compliance confirmed. Repair large areas using concrete as compliance confirmed.
3. Clean and fill holes, spalls, and honeycombs with non-shrink grout as compliance confirmed.
   a. Fill only the holes.
   b. Do not blend the patch with the surrounding concrete.
   c. Chip out exposed parts of metals chairs to a depth of ½ inch and repair the surface.
4. Remove all fins, runs, drips, or mortar from surfaces that will be exposed to view or subjected to moving water.
5. Smooth all form marks and chamfer edges by grinding or dry rubbing.
6. Grinding
   a. When grinding surfaces exposed to view, limit depth of grinding such that no aggregate particles are exposed more than 1/16 inch in cross section at finished surface.
   b. When grinding has caused or will cause exposure of aggregate particles greater than 1/16 inch in cross section at finished surface, repair concrete by excavating (saw cutting) and replacing concrete.

3.4.D. All concrete repairs shall be performed per the requirements of Bureau of Reclamation's (USBR) Guide to Concrete Repair including USBR's M-47 Standard Specifications for the Repair of Concrete.

3.4.E. Ensure that all repairs are dense, well bonded, and properly cured.

3.4.F. Finish exposed large repairs to blend with the surrounding concrete where a higher class of finish is not specified.

3.4.G. Use bonding agent on existing hardened concrete unless mortar manufacturer details that it is not required.

3.4.H. All repairs shall be completed within 48 hours after form removal.

3.4.I. Protect repairs from premature drying. Fully cure all repairs.

3.5. RECORD DRAWINGS

3.5.A. Record Drawings shall show final work performed.

3.5.B. Any changes to the placement of, dimensions of, or types of material from what is shown on the Contract Drawings shall be noted on the Record Drawings.

3.5.C. If different suppliers are used for different portions of the project, identify which areas of work match which suppliers.

3.5.D. Section 01.78.39 may list additional requirements for the Record Drawings.

--End of Section--

International Boundary and Water Commission

Established in 1889, the International Boundary and Water Commission (IBWC) has responsibility for applying the boundary and water treaties between the United States and Mexico and settling differences that may arise in their application. The IBWC is an international body composed of the United States Section and the Mexican Section, each headed by an Engineer-Commissioner appointed by their respective president. Each Section is administered independently of the other. The United States Section of the International Boundary and Water Commission (USIBWC) is a federal government agency and is headquartered in El Paso, Texas. The IBWC operates under the foreign policy guidance of the Department of State. The Mexican Section is under the administrative supervision of the Mexican Ministry of Foreign Affairs and is headquartered in Ciudad Juarez, Chihuahua, Mexico.

Vision

To be recognized as the premier agency that identifies solutions along the United States - Mexico border through local, state, federal, and binational partnerships.

Mission

Provide binational solutions to issues that arise during the application of United States - Mexico treaties regarding boundary demarcation, national ownership of waters, sanitation, water quality, and flood control in the border region that arise during application of United States-Mexico treaties.

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Questions and comments about this or other IBWC projects can be submitted to: forms.office.com/g/tZNR9Cv0qL

FEEDBACK COMMENT QUESTION OPINION

International Boundary and Water Commission

United States Section

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