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## SECTION 01 11 00

## SUMMARY OF WORK

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## 1.1 WORK COVERED BY CONTRACT DOCUMENTS

## 1.1.1 Project Description

The work includes all work required for a wide range of construction services including river work, dredging, habitat creation, stabilization, rock placement, earth moving activities and incidental related work.

## 1.1.2 Location

The work is located along the Missouri River and valley from Rulo, NE (River Mile 498.2) to Lower Ponca Bend (River Mile 750.0). The exact location will be shown by the Contracting Officer.

## PART 2 PRODUCTS

Not used.

## PART 3 EXECUTION

Not used.

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## DIVISION 01 - GENERAL REQUIREMENTS

## SECTION 01 12 00

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## SECTION 01 12 00

## CONSTRUCTION GENERAL

## PART 1 GENERAL

## 1.1 SCOPE

The work covered in this section is outlined as a statement of construction requirements common to all the work. Specific requirements for materials and installations are provided under the Technical Sections herewith. No claims for extras shall be made on account of items presumed to have been omitted from this section.

## 1.2 CONSTRUCTION RIGHT-OF-WAY

The Contractor will be assigned working areas or working right-of-way limits for use in the prosecution of work under this contract, subject to the SECTION 00 72 00, GENERAL CONDITIONS (CONTRACT CLAUSES) clause entitled "Operations and Storage Areas."

## 1.3 PROTECTION OF EXISTING FACILITIES AND WORKS

The Contractor shall be responsible for the protection of the work area from damage and upon completion of the work shall leave existing works in a condition equal to that which existed when the work started. All work, storage of materials, and construction plant shall be kept within the limits of the areas assigned. Prior to construction operations, the Contractor shall confer with the Contracting Officer's representative to determine the proximity of any possible under-ground obstructions, pipe or equipment which could be damaged as a result of construction operations. Existing utility lines that are shown on the drawings or the locations are otherwise made known to the Contractor shall be protected from damage, and if damaged, shall be repaired by the Contractor at no additional expense to the Government. In the event that the Contractor damages any existing utility lines that are not shown or the locations of which have not been made known to the Contractor, the Contractor shall immediately notify the Contracting Officer. The Contracting Officer will review the information and discuss with the Contractor how to proceed. The Contractor will be responsible for the protection of structures from any structural damage during the construction operations. Roads and surfaces shall be protected from damage by the work or if damaged shall be repaired with equal materials at no additional expense to the Government. At all times the plant and work areas shall be kept in a condition conducive to safety of workmen and the public and neat in appearance. Waste or surplus materials shall not be allowed to accumulate in the construction areas.

## 1.3.1 Flood Protection Works

In all cases where materials in the existing flood protection works are used or connected with the construction of new work under this contract, the work shall be so planned and executed that the new work shall be completed to provide protection equivalent to the existing protection as the existing protection is weakened or removed. These operating restrictions shall be followed in order that the new work may be tied in, or connected promptly, by the Contractor, with the existing facilities so



as to furnish a continuous service in an emergency. These ties or connections shall be made during periods of suspended construction operations and the Contractor shall leave incompletd pipe outlets and other structures in such conditions as to not interfere with the natural drainage from areas served by these pipes or structures.

#### 1.4 CARE OF WATER

Full responsibility for care of water shall be borne by the Contractor until completion of work under this contract. The Contractor shall provide the materials and equipment and perform all work necessary to facilitate construction and to protect the work from damage by water. The Contractor shall make the needed investigations and determinations of conditions, both existing and anticipated concerning care of water. Plans for care of water are subject to approval by the Contracting Officer prior to construction. Facilities shall be removed upon completion of the work.

#### 1.5 Project Survey and Layout

In addition to the requirements of FAR 52.236-17 Layout of Work, the Contractor shall provide a licensed land surveyor to check initial project control, and to provide and set hubs for project construction. The Contractor shall use (and reference in all as-built data) project stationing as described on the contract drawings. In addition, a licensed land surveyor shall provide final project embankment survey (i.e. to include major breakpoints, riverward toe, profile, top of levee at riverward/landward and landward toe) prior to placement of surfacing for government review and approval. If applicable a licensed land surveyor shall also provide, set and verify as built condition of major flood control structures/features; i.e. flood wall control. These surveys shall provide and verify both horizontal and vertical project control. This survey shall be used for final as-built embankment profile and cross section, and major flood control structure records, and recorded on the as-built condition in accordance with Section, As-Built Drawings.

The Contractor may utilize their own quality control personnel to provide interim surveys for quantity determination for payment in accordance with paragraph entitled Quantity Surveys (Apr 1984).

#### 1.6 DISPOSITION OF CONSTRUCTION FACILITIES

All buildings and facilities constructed by the Contractor shall be maintained in a satisfactory condition with strict observance of the rules of sanitation, safety and order as may be established by the Contracting Officer. Prior to final payment under the contract, all buildings and facilities constructed by the Contractor for the Contractor's use shall be removed from the site by the Contractor.

#### 1.7 ACCESS ROADS AND HAUL ROADS

##### 1.7.1 Access Roads

Access roads as required for the prosecution of the work shall be maintained (including sprinkling for dust control, safety personnel, and traffic control) within the work areas assigned to the Contractor. Consideration shall be given to the avoidance of interference with others, safety and frequency of traffic, subject to review and approval prior to construction. Access road areas shall be restored to their original or



suitable condition upon completion of this contract. The Contractor shall be responsible for repair of damage to existing roads caused by the Contractor's operation.

#### 1.7.2 Haul Roads

The Contractor shall construct haul roads as may be necessary for the conduct of the work without additional cost to the Government. The Contractor shall arrange the hauling operations so as to cause a minimum interference with traffic and shall develop Temporary Traffic Control (TTC) plan(s) and furnish all necessary traffic control devices and personnel as required to avoid additional hazards to the public. The Contractor shall perform routine day and night inspections of TTC elements as required by MUTCD and maintain all furnished traffic control devices at their expense and without additional cost to the Government. Lines, grades and widths for haul roads, shall be selected to fulfill the requirements for safe and efficient hauling operations and shall be approved by the Contracting Officer prior to construction. Haul roads shall have ample width to provide safety. Preference shall be given to one-way haul roads when these are feasible. All roads shall be maintained in original as-built condition during all periods of their use. Roads shall be sprinkled whenever, in the opinion of the Contracting Officer, control of dust is necessary to insure safe movements of construction traffic. Upon completion of work under this contract, roads shall be disposed of as directed by the Contracting Officer. All traffic control devices, culverts, guards, fences and other improvements on roads constructed for the Contractor's convenience and operations shall be removed from the project site and shall remain property of the Contractor. Use and repair of existing roads and bridges shall be subject to the requirements of local authorities. Prior to start of hauling operations on public roads, the Contractor shall furnish written evidence to the Contracting Officer that an agreement has been consummated with State and County officials on the use of public roads and bridges. Such agreements shall clearly relieve the Government of any responsibility for damage resulting from hauling across or on these roads.

#### 1.7.3 Joint Use of Transportation Facilities

The Contractor may use jointly with Contractors and others, existing access and haul roads constructed by the Government or by others. Unless otherwise specifically authorized in writing, the Contractor will not be granted exclusive use of any access or haul road whether it be an existing road or one constructed by the Contractor. However, the use by others of roads constructed by or assigned to the Contractor primarily for the Contractor's use will be limited by the Contracting Officer to the minimum considered consistent with efficient prosecution of the work under this and other contracts in force. Maintenance of jointly used facilities shall be shared in proportion to use. In the event of a disagreement between this Contractor and others as to the use of any road, the decision of the Contracting Officer shall be final. The Contractor shall not obstruct any existing road on the land controlled by the Government.

#### 1.7.4 Waterway Crossings

The Contractor shall construct approved crossings where hauling is to be done across waterways with adequate openings for drainage and streamflow. Structures for crossings shall be safe for all operating equipment and vehicles and shall be adequate for drainage and flow of the waterway. After haul for construction has ceased, the structures constructed by the



Contractor shall be removed and disposed of as directed.

#### 1.7.5 Ramps

Ramps shall be provided and maintained for access of hauling equipment into excavation and waste areas. Locations, grades and width are subject to review and approval by the Contracting Officer prior to construction.

#### 1.7.6 Drainage

The Contractor shall provide and maintain ditches, dikes and other facilities within and adjacent to the work areas to direct the surface and subsurface flow of water away from abutting private property and work in place or under construction by this and other contracts. The design, location, type and size of drainage facilities are subject to review and approval by the Contracting Officer prior to construction. PUBLIC ROADS

#### 1.8 Lane Closure

One lane of the road must remain open at all times. The Contractor shall determine an appropriate method for the specific Temporary Traffic Control (TTC) zone one-lane, two-ways traffic control method in accordance with MUTCD requirements. The Contractor shall furnish all necessary personnel and traffic control devices, perform routine day and night inspections of TTC elements, and maintain all furnished traffic control devices to provide safety for motorists, bicyclists, pedestrians, workers, enforcement/emergency officials, and equipment as required by MUTCD. The Contractor is required to coordinate the road/lane closure with the applicable state's Department of Transportation and USACE.

#### 1.9 Traffic Control Devices

All traffic control devices (signs, arrow boards, barricades, lighting etc) by the Contractor, must conform with the U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices.

#### 1.10 Temporary Traffic Control (TTC)

The Contractor shall be responsible for the safe control of traffic on all haul and access roads used primarily for the work under these specifications and at their crossings with roads used by others. The Contractor shall, at the Contractor's own expense, furnish all personnel, and traffic control devices necessary for the safe movement of all road users through or around Temporary Traffic Control zone. Traffic control plans, including a listing of equipment and its employment, shall be submitted for review and approval prior to construction.

#### 1.11 Operations

When operations are being conducted near a U. S. or State Highway or when construction equipment is being used on or adjacent to such highway, the Contractor shall furnish all necessary traffic control devices and personnel to provide safe and effective movement of all road users through or around Temporary Traffic Control zone as required by MUTCD. All required state and/or local permits shall be obtained at the Contractor's expense in advance and shall be provided to the COR. The highways and streets shall be kept open at all times.



#### 1.11.1 Flaggers

The Contractor shall provide flaggers when:

- a) Construction equipment and/or vehicles are blocking the roadway making it difficult for vehicles to pass or see or due to terrain.
- b) One-way traffic is required thru a construction zone.
- c) Trucks are pulling onto and/or off of a roadway or operating at a reduced speed causing a hazardous situation for drivers.
- d) Anytime the Contractor feels that road users are at risk due to Construction activity.

Flagger shall have all qualifications, high-visibility safety apparel, and appropriate hand-signaling devices in accordance with MUTCD requirements. The flagger shall be properly trained as required by the state. The Contractor shall furnish all necessary traffic control devices to establish appropriate TTC zone when the Flagger Control is utilized.

#### 1.12 Road Closure

At each location designated by the Contracting Officer and where safe operation requires the closing of roads, streets or other travel arteries leading to the work under this contract, the Contractor shall furnish all appropriate traffic control devices to provide safety for motorists, bicyclists, pedestrians, workers, enforcement/emergency officials, and equipment during construction as required by MUTCD. Arrangements for closure of roads, streets or other travel arteries shall be made by the Contractor with local State, County or City officials. The Contractor shall notify the appropriate official in writing at least ten (10) days in advance of the date desired to close a road to traffic and shall furnish a copy of the agreement and approved Temporary Traffic Control plans to the Contracting Officer prior to closure.

#### 1.13 State and Federal Highways

Where the Contractor hauls across or on State or Federal highways, the Contractor shall enter into all agreements with the State Highway Commission and shall comply with any restrictions they may impose relative to load limits, care of traffic and cleanup. Such agreements shall clearly relieve the Government of any responsibility for damages resulting from hauling across or on State highways. Copies of such agreements shall be furnished to the Contracting Officer before the Contractor begins hauling on these highways.

#### 1.14 State and Local Public Roads

##### (a) Load Limits:

The Contractor is required to check with the applicable state's Department of Transportation and local County Road Commissions for restrictions on the load weights of haul vehicles using highways and county roads during the spring thaw period. The load restrictions are usually imposed from 1 April through June depending on actual weather conditions.

##### (b) Hauling Regulations:

Prior to start of hauling operations on public roads, the Contractor shall furnish evidence to the Contracting Officer that an agreement has been consummated with State and County officials on the use of public roads and



bridges. Such agreements shall clearly relieve the Government of any responsibility for damage resulting from hauling across or on these roads.

#### 1.15 City Streets

Where the Contractor intends to cross or to use city streets for haul roads the Contractor shall enter into an agreement with the City and shall comply with any restrictions the City may impose relative to load limits, care of traffic and cleanup. Such agreements shall clearly relieve the Government of any responsibility for damage resulting from hauling across or on these highways. A copy of all such agreements shall be furnished the Contracting Officer before the Contractor begins hauling in city streets.

#### 1.16 Utility Lines

It shall be the responsibility and obligation of the Contractor to make all arrangements with the affected companies for the necessary moving and alterations of utility lines and the continuation of service during construction as covered by the plans and specifications.

#### 1.17 COOPERATION WITH OTHER CONTRACTORS

The Contractor shall cooperate and coordinate work with that of the State and others (public and private) working in the area during the life of this contract. The Contractor shall coordinate work with others to avoid undue interference and shall conduct operations, other than approved required access, within the limits of the assigned construction area or construction right-of-way limits. The Contractor shall cooperate with others as necessary in the interest of timely completion of all work and in the event of disagreement the decision of the Contracting Officer shall be final.

#### 1.18 WINTER WORK

No separate payment will be made for winterizing or other protective measures that are required for the Contractor to maintain the scheduled progress. Special requirements for the placement of concrete or embankment in cold weather are covered in the applicable sections of these specifications.

#### 1.19 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

##### SD-01 Preconstruction Submittals

Proposed Methods of Operation; G-A0

Progress Charts; G-A0

Construction Right-of-Way



(Right-of-Way Agreements)

State and Federal Highways

(Agreements for hauling on highways)

State and Local Public Roads

(Agreements for hauling on roads)

Temporary Traffic Control (TTC); G, AO

SD-02 Shop Drawings

Care of Water; G-AO

SD-11 Closeout Submittals

Warranty of Construction

(List of warranties with copy of each)

#### 1.20 SPECIAL INSTRUCTIONS FOR PROGRESS CHARTS

To be submitted in accordance with the SECTION 00 72 00, GENERAL CONDITIONS (CONTRACT CLAUSES) clause entitled "Schedule for Construction Contracts" shall indicate the required data for each of the principal features of the work. Contract changes or modifications will not include extensions of time unless the updated progress chart shows that the contract completion date is delayed due to the affect of the change on one or more principal features of the work.

#### 1.21 WARRANTY OF CONSTRUCTION (MAR 1994)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, 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.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.



(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud. (FAR 52.246-21)

#### 1.22 TELEPHONE/INTERNET

The Contractor is responsible for arranging telephone/Internet service for the Contractor's trailer through the local telephone company.

#### 1.23 TRANSPORTATION OF GOVERNMENT PERSONNEL

The contractor shall provide the on-site Government Representatives with transportation from the boat landing to the location of on-site work activity on an as needed basis. This shall be accomplished through cell phone communication. All marine equipment used to transport personnel shall meet Coast Guard standards, and all weight restrictions and onboard safety device requirements will be strictly enforced.

#### 1.24 River Stage and Navigation Season

It is the contractor's responsibility to determine the construction timing and sequencing for stone acquisition, transportation, and placement during



appropriate conditions in the river and within the specified period of performance for this contract. The Missouri river consistently experiences wide flow level variations that should be expected during the project construction period. Tributary inflow and other factors will significantly affect site flow conditions in addition to reservoir releases. Contractor operations during the construction period may be impacted by extreme high or low river levels due to flooding, drought, operation of Gavins Point dam, and/or high tributary inflow. The contractor shall consult the current river flow and stage information on <http://www.nwd-rnr.usace.army.mil/rcc> or call 402-996-3870.

#### 1.25 River Stabilization Structures Report, MRD Form 701

See Section 35 31 20 for MRD Form 701 requirements.

#### 1.26 PORTABLE TOILETS

The Contractor shall provide and maintain portable toilets for use by the Contractor's staff and Government staff. Toilet(s) shall be placed at the location directed by the Contracting Officer. To prevent overturning by high winds, all portable toilets shall be anchored down.

#### 1.27 FEDERAL HOLIDAYS AND WORKING HOURS

The Contractor will have access to the facility for work during normal plant business hours from 0700 to 1700 hrs Monday through Friday, excluding any federally recognized holidays or observance days. The Contractor shall plan all work accordingly. These hours will be strictly adhered to unless the Government determines work outside this time is beneficial to the Government or a bilateral modification for extended working hours is executed.

The following Federal legal holidays are observed by this installation:

New Year's Day	1 January
Martin Luther King's Birthday	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Juneteenth	19 June
Independence Day	4 July
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veterans Day	11 November
Thanksgiving Day	Fourth Thursday in November
Christmas Day	25 December

If the wage determination has a discrepancy with the above list of observed Federal holidays, then the wage determination takes precedence.

PART 2 NOT USED

PART 3 NOT USED

-- End of Section --



U.S. Army Corps of Engineers (USACE) <b>TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE</b> For use of this form, see ER 415-1-10; the proponent agency is CECW-CE.					DATE		TRANSMITTAL NO.	
<b>SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS</b> <i>(This section will be initiated by the contractor)</i>								
TO:			FROM:		CONTRACT NO.		CHECK ONE: <input type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____	
SPECIFICATION SEC. NO. <i>(Cover only one section with each transmittal)</i>			PROJECT TITLE AND LOCATION			THIS TRANSMITTAL IS FOR: <i>(Check one)</i> <input type="checkbox"/> FIO <input type="checkbox"/> GA <input type="checkbox"/> DA <input type="checkbox"/> CR <input type="checkbox"/> DA/CR <input type="checkbox"/> DA/GA		
ITEM NO. <i>(See Note 3)</i>  a.	DESCRIPTION OF SUBMITTAL ITEM <i>(Type size, model number/etc.)</i>  b.	SUBMITTAL TYPE CODE <i>(See Note 8)</i>  c.	NO. OF COPIES  d.	CONTRACT DOCUMENT REFERENCE		CONTRACTOR REVIEW CODE  g.	VARIATION Enter "Y" if requesting a variation <i>(See Note 6)</i>  h.	USACE ACTION CODE <i>(Note 9)</i>  i.
				SPEC. PARA. NO.  e.	DRAWING SHEET NO.  f.			
REMARKS				I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.				
				NAME OF CONTRACTOR			SIGNATURE OF CONTRACTOR	
<b>SECTION II - APPROVAL ACTION</b>								
ENCLOSURES RETURNED <i>(List by item No.)</i>			NAME AND TITLE OF APPROVING AUTHORITY			SIGNATURE OF APPROVING AUTHORITY		DATE



## INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each Transmittal shall be numbered consecutively. The Transmittal Number typically includes two parts separated by a dash (-). The first part is the specification section number. The second part is a sequential number for the submittals under that spec section. If the Transmittal is a resubmittal, then add a decimal point to the end of the original Transmittal Number and begin numbering the resubmittal packages sequentially after the decimal.
3. The "Item No." for each entry on this form will be the same "Item No." as indicated on ENG FORM 4288-R.
4. Submittals requiring expeditious handling will be submitted on a separate ENG Form 4025-R.
5. Items transmitted on each transmittal form will be from the same specification section. Do not combine submittal information from different specification sections in a single transmittal.
6. If the data submitted are intentionally in variance with the contract requirements, indicate a variation in column h, and enter a statement in the Remarks block describing the detailed reason for the variation.
7. ENG Form 4025-R is self-transmitting - a letter of transmittal is not required.
8. When submittal items are transmitted, indicate the "Submittal Type" (*SD-01 through SD-11*) in column c of Section I.  
 Submittal types are the following:
 

SD-01 - Preconstruction	SD-02 - Shop Drawings	SD-03 - Product Data	SD-04 - Samples	SD-05 - Design Data	SD-06 - Test Reports
SD-07 - Certificates	SD-08 - Manufacturer's Instructions	SD-09 - Manufacturer's Field Reports	SD-10 - O&M Data	SD-11 - Closeout	
9. For each submittal item, the Contractor will assign Submittal Action Codes in column g of Section I. The U.S. Army Corps of Engineers approving authority will assign Submittal Action Codes in column i of Section I. The Submittal Action Codes are:
 

A -- Approved as submitted. B -- Approved, except as noted on drawings. Resubmission not required. C -- Approved, except as noted on drawings. Refer to attached comments. Resubmission required. D -- Will be returned by separate correspondence. E -- Disapproved. Refer to attached comments.	F -- Receipt acknowledged. X -- Receipt acknowledged, does not comply with contract requirements, as noted. G -- Other action required ( <i>Specify</i> ) K -- Government concurs with intermediate design. ( <i>For D-B contracts</i> ) R -- Design submittal is acceptable for release for construction. ( <i>For D-B contracts</i> )
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10. Approval of items does not relieve the contractor from complying with all the requirements of the contract.



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## SECTION 01 30 00.24

## OTHER ADMINISTRATIVE AND SPECIAL REQUIREMENTS

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## SECTION 01 30 00.24

## OTHER ADMINISTRATIVE AND SPECIAL REQUIREMENTS

## PART 1 GENERAL

## 1.1 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE

In accordance with FAR 31.105(d)(2)(i)(b), for the predetermined schedule of construction equipment use rates, use Engineer Pamphlet (EP) 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule. Copies of each regional schedule may be obtained through the following internet site:

<https://www.publications.usace.army.mil/USACE-Publications/Engineer-Pamphlets/>  
on pages 10 and 11 of 13.

1.2 CONTRACTOR SUPPLY AND USE OF ELECTRONIC SOFTWARE FOR PROCESSING  
CONSTRUCTION WAGE RATE REQUIREMENTS STATUTE CERTIFIED LABOR PAYROLLS

a. Use a commercially-available electronic system to process and submit certified payrolls electronically to the Government. The requirements for preparing, processing and providing certified labor payrolls are established by the Wage Rate Requirements statute.

b. Obtain and provide for all access, licenses, and other services required to provide for receipt, processing, certifying, electronically transmitting to the Government, and storing weekly payrolls and other data required for the Contractor to comply with the Wage Rate Requirements statute. Use the electronic payroll service to prepare, process, and maintain the relevant payrolls and basic records during all work under this construction contract. The electronic payroll service must be capable of preserving these payrolls and related basic records for the required three years after contract completion. Obtain and provide electronic system access to the Government, as required to comply with the Wage Rate Requirements over the duration of the construction contract.

c. The Contractor's provision and use of an electronic payroll processing system must meet the following basic functional criteria:

- (1) commercially available;
- (2) compliant with appropriate Wage Rate Requirements statute payroll provisions in the FAR;
- (3) able to accommodate the required numbers of employees and subcontractors planned to be employed under the contract;
- (4) capable of producing an Excel spreadsheet-compatible electronic output of weekly payroll records for export into an Excel spreadsheet to be imported into the contractor's mode of Resident Management System 3.0;
- (5) demonstrated security of data and data entry rights;
- (6) ability to produce Contractor-certified electronic versions of weekly



payroll data;

(7) ability to identify erroneous entries and track the data/time of all versions of the certified Wage Rate Requirements statute payrolls submitted to the government over the life of the contract;

(8) capable of generating a durable record copy in a Compact Disc (CD) or Digital Versatile Disc (DVD) and Portable Document Format (PDF) file record of data from the system database at the end of the contract closeout. This durable record copy of data from the electronic payroll processing system must be provided to the Government during contract closeout.

d. All Contractor-incurred costs related to the Contractor's provision and use of an electronic payroll processing service must be included in the Contractor's price for the overall work under the contract. The costs for compliance with the Wage Rate Requirements statute by using electronic payroll processing services must not be a separately bid or reimbursed item under this contract.

### 1.3 VETERANS EMPLOYMENT EMPHASIS FOR U.S. ARMY CORPS OF ENGINEERS CONTRACTS

In addition to complying with the requirements outlined in FAR Part 22.13, FAR Provision 52.222-38, FAR Clause 52.222-35, FAR Clause 52.222-37, DFARS 222.13 and Department of Labor regulations, U.S. Army Corps of Engineers (USACE) contractors and subcontractors at all tiers are encouraged to promote the training and employment of U.S. veterans while performing under a USACE contract. While no set-aside, evaluation preference, or incentive applies to the solicitation or performance under the resultant contract, USACE contractors are encouraged to seek out highly qualified veterans to perform services under this contract. The following resources are available to assist USACE contractors in their outreach efforts:

- U.S. Department of Labor Veterans' Employment and Training Service (VETS):  
<https://www.dol.gov/vets/>
- Federal Veteran Employment Information: <https://www.fedshirevets.gov/>
- Veterans Opportunity to Work (VOW) Program:  
<https://www.benefits.va.gov/vow/>
- U.S. Army Warrior Transition Command Employment Index:  
<https://wct.army.mil/modules/employers/index.html>
- Hiring Our Heroes: <https://www.uschamberfoundation.org/hiring-our-heroes>

### 1.4 CONTRACTOR PERFORMANCE EVALUATIONS

See Federal Acquisition Regulation (FAR) Subpart 42.1502(e) for the requirements on past performance evaluations for construction contracts. For construction contracts valued at or above \$750,000.00, including all modifications, the USACE will evaluate Contractor's performance using the web-based Contractors Performance Assessment Reporting System (CPARS). After the USACE drafts an evaluation (interim or final), the Contractor will have the opportunity to access, review, comment and either concur or non-concur with the evaluation in the CPARS system for a period of 60 days. Access to the CPARS system requires either specific software called PKI certification (recommended method) or a username and password. The PKI certification is a Department of Defense recommendation and to provide security in electronic transactions. The certification software could cost approximately \$110 - \$125 per certificate per year and may be purchased from an External Certificate Authorities (ECA) vendor. Current information



about the PKI certification process and contacting vendors can be found on the web site: <https://www.cpars.gov>.

#### 1.5 ANTITERRORISM (AT)/OPERATIONS SECURITY (OPSEC) PROVISIONS

##### **1. General security requirements and guidance:**

The security requirements described below apply to all contract personnel (including employees of the prime Contractor ("Contractor") and all subcontractor employees) supporting the performance requirements of this contract. The Contractor is responsible for compliance with these security requirements. Questions regarding security matters shall be addressed to the designated Government representative (e.g., Contracting Officer Representative (COR), Requiring Activity (RA) representative, or Contracting Officer (if a COR or other RA representative is not appointed)). Contract personnel are critical to the overall security and safety of US Army Corps of Engineers (USACE) installations, facilities and activities, and security awareness training contributes to those efforts. The Department of Defense (DoD) and Army security training requirements specified below, if applicable, are performance requirements; all applicable contract personnel shall complete initial training within 30 days of contract award or the date new contract personnel begin performance on the contract. Within five business days from the completion of training, the Contractor shall provide written documentation (e.g., email or memorandum) to the Government representative. The documentation shall include the names of contract personnel trained and which training they completed; the Contractor shall maintain training records as part of their contract files and be prepared to provide copies of training certificates to the Government representative. Contractor personnel and vehicles are subject to search when entering federal installations. Additionally, all contract personnel shall comply with Force Protection Condition (FPCON) measures, Random Antiterrorism Measures (commonly referred to as "RAMs"), and Health Protection Condition (HPCON) measures. The Contractor is responsible for meeting performance requirements during elevated FPCON and/or HPCON levels in accordance with applicable RA plans and procedures-this includes identifying mission essential and non-mission essential personnel. In addition to the changes otherwise authorized by the changes clause of this contract, should the FPCON or HPCON levels at any individual facility or installation change, the Government may implement security changes that affect contract personnel. The Contractor shall ensure all contract personnel are aware of their security responsibilities, including any site-specific requirements identified in local policies or procedures.

##### **2. Antiterrorism (AT) Level I training:**

All contract personnel requiring routine access to Army installations, facilities, and controlled access areas, or requiring network access shall complete initial and annual refresher AT Level I awareness training. Online AT Level I awareness training is available at <https://jko.jten.mil/> (website subject to change).

##### **3. Physical security and access control requirements:**

All contract personnel requiring physical access to a federal installation or facility shall comply with the access control procedures of that location. Contract personnel requiring unescorted access to meet contract performance requirements on a DoD installation in the US shall be vetted by the installation/facility Provost Marshal/Directorate of Emergency Services/Security Office using the National Crime Information Center-Interstate Identification Index (commonly referred to as "NCIC-III") and Terrorist Screening Database (commonly referred to as



"TSDB"). Contract personnel shall comply with all personal identity verification requirements specified in installation/facility policies and procedures. Contract personnel who do not meet requirements for unescorted access to USACE facilities shall coordinate escorted access with the Government representative, as needed. Contract personnel who receive keys, access cards, or lock combinations that provide access to government-owned property shall comply with key and lock control procedures of the RA.

3.1 Submit a complete, updated and signed, list of all Contractor and subcontractor personnel, including their titles and intended working hours, who will be working on site prior to start of work. This listing shall be revised and resubmitted when personnel changes occur. (SUBMITTAL FIO)

### 3.2 Personnel Risk Assessment

A minimum of seven days prior to engaging in work submit, to the COR or Project POC, a Personnel Risk Assessment (PRA) for each employee requiring authorized unescorted access to the Jobsite. The Contractor employee will only be allowed authorized unescorted physical access after the PRA is shown to and approved by the Government.

### 3.3 Authorized Unescorted Access Requirements

Perform a PRA on all Contractor personnel that require authorized unescorted access to the Jobsite. Costs associated with the execution of the PRA shall be at the expense of the Contractor. The content of the PRA is defined by the requirements as follows: (SUBMITTAL PRA)

a. Criminal Check - Obtain a criminal background check, completed within the last seven years (assuming continuous employment, otherwise a new one must be accomplished), on all Contractor personnel that require authorized unescorted access to the Jobsite. A minimum of a 7-year criminal background check with the state patrol office shall be performed from all states of residence and employment, for the past seven years. The Project Security Officer through the Contracting Officer will approve, disapprove, or revoke authorized unescorted access to the Jobsite as a result of the seven-year background check.

b. Identity Verification - Contractor employees shall provide positive verification of individual identity prior to authorized unescorted access to the Jobsite. Acceptable forms of identity verification are documents issued by a federal Government agency that include: the individual's photograph, name, and date of birth, such as a passport or military identification (ID) card. Additionally, a state issued driver's license or ID card is acceptable for identity verification.

c. The Criminal Check and Identity Verification shall be updated at least every seven years for each employee requiring authorized unescorted access to the Jobsite.

d. Escort Requirements - Contractor personnel not cleared for authorized access to the Jobsite may be escorted by Government or Contractor personnel that have authorized unescorted access to the Jobsite. All costs related to the escorting of non-cleared personnel shall be at the expense of the Contractor. Additional burden shall not be placed upon the Government to provide these escorts. Prior to access, coordination with the Project Security Officer is required, including but not limited to:



- (1) Verification of identity with photo identification
- (2) Name of escorting individual and verification of unescorted status
- (3) Time of entry into the Jobsite
- (4) Time exiting the Jobsite.

## 1.6 CONTRACT DRAWINGS AND SPECIFICATIONS

### 1.6.1 SETS FURNISHED

Utilize the bid drawings and specifications as amended in the performance of the work until the electronic Adobe Acrobat.pdf conformed specifications and contract drawings (i.e., bid drawings that have been posted with all amendment changes) are sent electronically to the Contractor. The work must conform to the contract drawings, set out in the drawing index, all of which form a part of these specifications. The work must also conform to any of the standard details bound or referenced herein. The Contractor shall be responsible for making copies of all plans and specifications as needed for the duration of the contract.

### 1.6.2 DISTRIBUTION

The Government will provide the Contractor with a CD-ROM or DVD-ROM or sent electronically containing Adobe Acrobat.pdf contract drawings and conformed specification sets and editable CAD file drawings (format defined in Section 01 78 39.00 24 AS-BUILT DRAWINGS). Prepare final record or as-built drawings as defined in Section 01 78 39.00 24 AS-BUILT DRAWINGS.

### 1.6.3 NOTIFICATION OF DISCREPANCIES

Check all drawing files furnished by the Government immediately upon their receipt and promptly notify the Contracting Officer of any discrepancies. Follow dimensions marked on drawings in lieu of scale measurements. Enlarged plans and details govern where the same work is shown at smaller scales. All scales shown are based on a standard drawing size of 22" x 34". If any other size drawings are furnished or plotted adjust the scales accordingly. Advise sub-contractors of the above. Compare all drawings and verify the figures before laying out the work and take responsibility for any errors which might have been avoided thereby.

### 1.6.4 OMISSIONS

Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, does not relieve the Contractor from performing such omitted or misdescribed details of the work but work must be performed as if fully and correctly set forth and described in the drawings and specifications.

## 1.7 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit items below in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals



#### AT Level I Training Sign In Sheets;

Sign In Sheets for all employee training required for AT Level I Training, see OPSEC paragraphs, subparagraph 2

#### Security Personnel List; G-PO

Security Personnel list as described in Access and General Protection/Security Policy and Procedures see OPSEC paragraphs, subparagraph 3.1.

#### Personnel Risk Assessment; G-PO

Provide Personnel Risk Assessment for each employee requiring authorized unescorted access to the Jobsite. See OPSEC paragraphs, subparagraph 3.2

#### iWATCH and/or CorpsWatch Training Sign In Sheets;

Sign In Sheets for all employee training required for iWATCH and/or CorpsWatch Training, see OPSEC paragraphs, subparagraph 6

#### OPSEC Training Sign In Sheets;

Sign In Sheets for all employee training required for OPSEC Training, see OPSEC paragraphs, subparagraph 9

#### E-Verify;

Provide E-Verify completion sheets required for OPSEC, see OPSEC paragraphs, subparagraph 14

### 1.8 PAYMENT

#### 1.8.1 PROMPT PAYMENT ACT

Pay requests authorized in GENERAL CONDITIONS (CONTRACT CLAUSES) clause: "Payments Under Fixed-Price Construction Contracts", will be paid pursuant to the clause, "Prompt Payment for Construction Contracts". Submit pay requests on ENG Form 93 and 93a, "Payment Estimate-Contract Performance" and "Continuation". All information and substantiation required by the identified contract clauses must be submitted with the ENG Form 93, and the required certification included on the last page of the ENG Form 93a, signed by an authorized contractor official and dated when signed. The designated billing office is the Office of the Area Engineer.

#### 1.8.2 PAYMENT FOR MATERIALS STORED OFFSITE

a. As allowed under (FAR) 52.232-5 "Payments Under Fixed Price Construction Contracts", the Administrative Contracting Officer, at their discretion, may authorize progress payments for any material stored off-site provided:

(1) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract,

(2) Material is stored in such a manner to protect it from damage, fire, theft, etc.



(3) The Contractor provides evidence of insurance for material, and,

(4) Material is clearly identified and delineated by contract number for use on the applicable project.

b. The Administrative Contracting Officer reserves the right to inspect any off-site material prior to authorizing progress payments. Provide paid invoices listing the value of material and labor incorporated in the items.

#### 1.9 AVAILABILITY AND USE OF UTILITY SERVICES

Use of public and private utilities will be as found available. Make arrangements for use of public and private utilities.

#### 1.10 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

a. This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the GENERAL CONDITIONS (CONTRACT CLAUSES) clause entitled "Default: (Fixed-Price Construction)." In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

##### MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORK DAYS BASED ON (5) DAY WORK WEEK

Jan	17
Feb	15
Mar	8
Apr	5
May	5
Jun	6
Jul	4
Aug	4
Sep	5
Oct	4
Nov	5
Dec	16

Monthly days will be provided with each Task Order, based on site location.



c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the contractor will record on the RMS daily CQC report, any occurrence of adverse weather and resultant impact to normally scheduled work, within 24 hours of the event. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the contractor's scheduled work day. Describe in the RMS daily CQC reports the critical path item that is being affected and provide the critical path activity number(s) from the current schedule. The COR must acknowledge and accept the agreed upon occurrence of each adverse weather delay in RMS for the delays to be considered as adverse weather delays.

At the end of each month, identify the number of actual adverse weather delay days that includes days impacted by actual adverse weather (even if adverse weather occurred in previous month), calculated chronologically from the first to the last day of each month, and recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph b. above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the GENERAL CONDITIONS (CONTRACT CLAUSES) clause entitled "Default (Fixed Price Construction)". (ER 415-1-15)

#### 1.11 IOWA SALES AND USE TAX

a. In the event goods, wares or merchandise on which the Contractor has paid Iowa sales or use tax become an integral part of the project, obtain appropriate forms from the Iowa State Tax Commission for recording the amount of purchases of such goods, wares, or merchandise, and complete, execute, and deliver them to the Contracting Officer prior to final settlement of the contract. Provide and report all data and information which may be necessary or required to enable the Contracting Officer to obtain all refunds from the Iowa Tax Commission to which the Federal Government may be entitled.

b. Insert a requirement containing the substance of the foregoing paragraph a. in every first tier subcontractor or vendor to include such a clause in any subcontract or purchase order which he places. The Contractor must obtain completed forms from their subcontractor and suppliers for submission to the Contracting Officer before final settlement of the contract.

#### 1.12 CONTRACTOR QUALITY CONTROL (CQC)

See Section 01 45 00.00 10 QUALITY CONTROL.

#### 1.13 NONDOMESTIC CONSTRUCTION MATERIALS

The list of excepted nondomestic construction materials or their components referenced in the Buy American Construction Material Contract Clauses includes the list set forth in paragraph 25.104 of the Federal Acquisition Regulation.

#### 1.14 DAILY WORK SCHEDULES AND WEEKLY COORDINATION MEETINGS

In order to closely coordinate work under this contract, prepare a written agenda/meeting minutes and attend a weekly coordination meeting with the Contracting Officer and Using Service at which time the Contractor must submit for coordination and approval, their proposed daily work schedule for the next three week period. Provide a copy of



modifications (MODs), Serial Letters, Requests for Information (RFIs) and any other information that is needed in the minutes of the meeting. Include required temporary utility services, time and duration of interruptions, and protection of adjoining areas with the Contractor's proposed 3-week work schedule. At this meeting, the Contractor must also submit their schedule of proposed dates and times of all preparatory inspections to be performed during the next 3 weeks. All schedules shall be in developed in accordance with paragraph: PROGRESS CHARTS. Coordination action by the Contracting Officer relative to these schedules will be accomplished during these weekly meetings. Daily reports must be completed and given to the Contracting Officer or Representative within 24 hours of work. All official correspondence such as serial letters and RFIs, with attachments are to be provided in one electronic (Adobe pdf format) copy by email. The Government will consider the correspondence to be received when the electronic copy is received by the designated office.

#### 1.15 AS-BUILT DRAWINGS

See SECTION 01 78 39.00 24 - AS-BUILT DRAWINGS

#### 1.16 PARTNERING

To most effectively accomplish this Contract, the Contractor and Government must form a cohesive partnership with the common goal of drawing on the strength of each organization in an effort to achieve a successful project without safety mishaps, conforming to the Contract, within budget and on schedule. The partnering team must consist of personnel from both the Government and Contractor including project level and corporate level leadership positions. Key Personnel from the supported command, end user, Contractor, key subcontractors and the Designer of Record are required to participate in the Partnering process.

##### 1.16.1 Team-Led (Informal) Partnering

- a. The Contracting Officer will coordinate the initial Team-Led (Informal) Partnering Session with key personnel of the project team, including Contractor and Government personnel. The Partnering Session will be co-led by the Government Construction Manager and Contractor's Project Manager.
- b. The Initial Team-led Partnering session may be held concurrently with the Pre-Construction meeting. Hold partnering sessions at a location mutually agreed to by the Contracting Officer and the Contractor, typically at a conference room on-base or at the Contractor's temporary trailer.
- c. Conduct the Initial Team-Led Partnering Session and facilitate using electronic media (a video and accompanying forms) provided by the Contracting Officer.
- d. The Partners will determine the frequency of the follow-on sessions.
- e. Participants will bear their own costs for meals, lodging and transportation associated with Partnering.

#### 1.17 PROFIT

- a. Use the weighted guidelines method of determining profit on any equitable adjustment change order or modification issued under this



contract. The profit factors must be as follows:

Factor	Rate	Weight	Value
Degree of Risk	20	See Item	
Relative difficulty of work	15	b. below	
Size of Job	15		
Period of performance	15		
Contractor's investment	5		
Assistance by Government	5		
Subcontracting	25		
	100		

b. Based on the circumstances of each procurement action, each of the above factors must be weighted from .03 to .12 as indicated below. Obtain the value by multiplying the rate by the weight. The value column when totaled indicates the fair and reasonable profit percentage under the circumstances of the particular procurement.

(1) Degree of Risk. Where the work involves no risk or the degree of risk is very small, the weighting should be .03; as the degree of risk increases, the weighting should be increased up to a maximum of .12. Lump sum items will have, generally, a higher weighted value than the unit price items for which quantities are provided. Other things to consider: the portion of the work to be done by subcontractors, nature of work, where work is to be performed, reasonableness of negotiated costs, amount of labor included in costs, and whether the negotiation is before or after performance of work.

(2) Relative Difficulty of Work. If the work is most difficult and complex, the weighting should be .12 and should be proportionately reduced to .03 on the simplest of jobs. This factor is tied in to some extent with the degree of risk. Some things to consider: the nature of the work, by whom it is to be done, where, and what is the time schedule.

(3) Size of Job. All work not in excess of \$100,000 shall be weighted at .12. Work estimated between \$100,000 and \$5,000,000 shall be proportionately weighted from .12 to .05.

(4) Periods of Performance. Jobs in excess of 24 months are to be weighted at .12. Jobs of lesser duration are to be proportionately weighted to a minimum of .03 for jobs not to exceed 30 days. No weight where additional time not required.

(5) Contractor's Investment. To be weighted from .03 to .12 on the basis of below average, average, and above average. Things to consider: amount of subcontracting, mobilization payment item, Government furnished property, equipment and facilities, and expediting assistance.

(6) Assistance by Government. To be weighted from .12 to .03 on the basis of average to above average. Things to consider: use of Government-owned property, equipment and facilities, and expediting assistance.

(7) Subcontracting. To be weighted inversely proportional to the amount of subcontracting. Where 80 percent or more of the work is to be subcontracted, the weighting is to be .03 and such weighting proportionately increased to .12 where all the work is performed by the Contractor's own forces.



#### 1.18 LABOR CONDITIONS APPLICABLE TO TEMPORARY FACILITIES

It is the position of the Department of Defense that the Davis-Bacon Act, 40 U.S.C. 276a is applicable to temporary facilities such as job headquarters, tool yards, batch plants, borrow pits, sandpits, rock quarries, and similar operations, provided they are dedicated exclusively, or nearly so, to performance of the contract or project, and provided they are adjacent or virtually adjacent to the site of the work and are established after receipt of the proposal or bid. Clause "Payrolls and Basic Records" of the GENERAL CONDITIONS (CONTRACT CLAUSES) is applicable to such operations.

#### 1.19 DRAWING SCALES

All scales shown are based on a standard drawing size of 22" x 34". If any other size drawings are furnished or plotted, the contractor adjust the scales accordingly. The Contractor must also advise their sub-contractors of the above.

#### 1.20 SIGNAL LIGHTS

The Contractor must display signal lights and conduct their operations in accordance with the General Regulations of the Department of the Army and of the Coast Guard governing lights and day signals to be displayed by towing vessels with tows on which no signals can be displayed, vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe or in submarine or bank protection operations, lights to be displayed on dredge pipe lines, and day signals to be displayed by vessels of more than 65 feet in length moored or anchored in a fairway or channel, and the passing by other vessels of floating plant working in navigable channels, as set forth in Commandant U.S. Coast Guard Instruction M1672.2, Navigation Rules: International-Inland (COMDTINST M16672.2), or 33 CFR 81 Appendix A (International) and 33 CFR 84 through 33 CFR 89 (Inland) as applicable.

#### 1.21 OMBUDSMAN

Task and Delivery Order Ombudsman. IAW FAR 16.505(B)(6) referring to FAR Part 16 "Ordering". The head of the agency has designated a task-order contract and delivery-order contract ombudsman. The ombudsman must review complaints from contractors and ensure they are afforded a fair opportunity to be considered, consistent with the procedures in the contract. The ombudsman is a senior agency official who is independent of the contracting officer and may be the agency's competition advocate.

Colonel Douglas S. Lowrey  
Task and Delivery Order Ombudsman  
US Army Corps of Engineers  
441 G. Street, N.W.  
Washington D.C. 20314-1000  
Phone: 202-761-4707  
E-Mail Douglas.S.Lowrey@usace.army.mil



PART 2 NOT USED

PART 3 NOT USED

-- End of Section --



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## SECTION 01 35 26

## GOVERNMENTAL SAFETY REQUIREMENTS

## PART 1 GENERAL

## 1.1 REFERENCES

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

## AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B30.3	(2020) Tower Cranes
ASME B30.5	(2018) Mobile and Locomotive Cranes
ASME B30.8	(2020) Floating Cranes and Floating Derricks
ASME B30.9	(2018) Slings
ASME B30.20	(2018) Below-the-Hook Lifting Devices
ASME B30.22	(2016) Articulating Boom Cranes
ASME B30.26	(2015; R 2020) Rigging Hardware

## AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.34	(2021) Protection of the Public on or Adjacent to Construction Sites
ASSP A10.44	(2020) Control of Energy Sources (Lockout/Tagout) for Construction and Demolition Operations
ASSP Z244.1	(2016) The Control of Hazardous Energy Lockout, Tagout and Alternative Methods
ASSP Z359.2	(2017) Minimum Requirements for a Comprehensive Managed Fall Protection Program

## NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2018; ERTA 1-2 2018) Standard for Portable Fire Extinguishers
NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code
NFPA 70E	(2021) Standard for Electrical Safety in the Workplace



NFPA 241 (2019) Standard for Safeguarding  
Construction, Alteration, and Demolition  
Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements  
Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

10 CFR 20 Standards for Protection Against Radiation

29 CFR 1910 Occupational Safety and Health Standards

29 CFR 1910.147 The Control of Hazardous Energy (Lock  
Out/Tag Out)

29 CFR 1910.333 Selection and Use of Work Practices

29 CFR 1910.1000 Air Contaminants

29 CFR 1915.89 Control of Hazardous Energy  
(Lockout/Tags-Plus)

29 CFR 1926 Safety and Health Regulations for  
Construction

29 CFR 1926.16 Rules of Construction

29 CFR 1926.450 Scaffolds

29 CFR 1926.1400 Cranes and Derricks in Construction

## 1.2 DEFINITIONS

### 1.2.1 Competent Person (CP)

The CP is a person designated in writing, who, through training, knowledge and experience, is capable of identifying, evaluating, and addressing existing and predictable hazards in the working environment or working conditions that are dangerous to personnel, and who has authorization to take prompt corrective measures with regards to such hazards.

### 1.2.2 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined in EM 385-1-1 Appendix Q, is a person meeting the competent person requirements, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

### 1.2.3 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and 29 CFR 1926, who has



been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

#### 1.2.4 Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the training material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

#### 1.2.5 High Risk Activities

High Risk Activities are activities that involve work at heights, crane and rigging, excavations and trenching, scaffolding, electrical work, and confined space entry.

#### 1.2.6 High Visibility Accident

A High Visibility Accident is any mishap which may generate publicity or high visibility.

#### 1.2.7 Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

#### 1.2.8 Medical Treatment

Medical Treatment is treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even when provided by a physician or registered personnel.

#### 1.2.9 Near Miss

A Near Miss is a mishap resulting in no personal injury and zero property damage, but given a shift in time or position, damage or injury may have occurred (e.g., a worker falls off a scaffold and is not injured; a crane swings around to move the load and narrowly misses a parked vehicle).

#### 1.2.10 Operating Envelope

The Operating Envelope is the area surrounding any crane or load handling equipment. Inside this "envelope" is the crane, the operator, riggers and crane walkers, other personnel involved in the operation, rigging gear between the hook, the load, the crane's supporting structure (i.e. ground or rail), the load's rigging path, the lift and rigging procedure.



#### 1.2.11 Qualified Person (QP)

The QP is a person designated in writing, who, by possession of a recognized degree, certificate, or professional standing, or extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.

#### 1.2.12 Recordable Injuries or Illnesses

Recordable Injuries or Illnesses are any work-related injury or illness that results in:

- a. Death, regardless of the time between the injury and death, or the length of the illness;
- b. Days away from work (any time lost after day of injury/illness onset);
- c. Restricted work;
- d. Transfer to another job;
- e. Medical treatment beyond first aid;
- f. Loss of consciousness; or
- g. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (a) through (f) above

#### 1.2.13 Government Property and Equipment

Interpret "USACE" property and equipment specified in USACE EM 385-1-1 as Government property and equipment.

#### 1.2.14 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

A LHE accident occurs when any one or more of the eight elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents, even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, or roll over). Document an LHE mishap using the Crane High Hazard working group mishap reporting form (Available at local USACE Safety Office).

#### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office



that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

ACCIDENT PREVENTION PLAN (APP); G, AO

SD-06 Test Reports

Monthly Exposure Reports

Notifications and Reports

Accident Reports; G, AO

LHE Inspection Reports

SD-07 Certificates

Crane Operators/Riggers

Standard Lift Plan; G, AO

Critical Lift Plan; G, AO

Naval Architecture Analysis; G, AO

Activity Hazard Analysis (AHA)

Certificate of Compliance

License Certificates

1.4 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both Prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this Contract, comply with the most recent edition of USACE EM 385-1-1, and the following federal, state, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.6 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Provide an SSHO that meets the requirements of EM 385-1-1 Section 1. The SSHO must ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one



person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Alternate SSHO must be at the work site at all times to implement and administer the Contractor's safety program and Government-accepted Accident Prevention Plan. The SSHO and Alternate SSHO must have the required training, experience, and qualifications in accordance with EM 385-1-1 Section 01.A.17, and all associated sub-paragraphs.

If the SSHO is off-site for a period longer than 24 hours, an equally-qualified alternate SSHO must be provided and must fulfill the same roles and responsibilities as the primary SSHO. When the SSHO is temporarily (up to 24 hours) off-site, a Designated Representative (DR), as identified in the AHA may be used in lieu of an Alternate SSHO, and must be on the project site at all times when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full time occupation.

#### 1.6.1.1.1 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

The SSHO may also serve as the Quality Control Manager. The SSHO may also serve as the Superintendent.

#### 1.6.1.2 Competent Person Qualifications

Provide Competent Persons in accordance with EM 385-1-1, Appendix Q and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and electrical work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (i.e. competent person, fall protection).

The Competent Person identified in the Contractor's Safety and Health Program and accepted Accident Prevention Plan, must be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. Provide the credentials of the Competent Persons(s) to the Contracting Officer for information in consultation with the Safety Office.

#### 1.6.1.3 Qualified Trainer Requirements

Individuals qualified to instruct the 40 hour contract safety awareness course, or portions thereof, must meet the definition of a Competent Person Trainer, and, at a minimum, possess a working knowledge of the following subject areas: EM 385-1-1, Electrical Standards, Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450, Subpart L.

Instructors are required to:

- a. Prepare class presentations that cover construction-related safety requirements.
- b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for



the same subject.

- c. Update training course materials whenever an update of the EM 385-1-1 becomes available.
- d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.
- e. Request, review and incorporate student feedback into a continuous course improvement program.

#### 1.6.1.4 Dredging Contract Requirements

##### 1.6.1.4.1 Dredging Safety Personnel Requirements

- a. Provide a minimum of one collateral duty SSHO assigned per project site for the primary working shift.
- b. For a project involving multiple work shifts, provide one collateral duty SSHO for each additional shift.
- c. For individual dredging projects or sites with a dredge crew and fill crew on watch of eight employees or less, a CDSO must be appointed, instead of an SSHO. The CDSO assumes the same responsibilities as a full-time SSHO.
- d. An example of one dredging project site is reflected in each of the following:
  - (1) a mechanical dredge, tug(s) and scow(s), scow route, and material placement site; or
  - (2) a hydraulic pipeline dredge, attendant plant, and material placement site; or,
  - (3) a hopper dredge (include land-based material placement site - if applicable.)
- e. For Hopper Dredges with the U.S. Coast Guard, documented crews may designate an officer as a Collateral Duty Safety Officer (CDSO) instead of having a full-time SSHO onboard if the officer meets the SSHO training and experience requirements.

##### 1.6.1.4.2 SSHO Requirements for Dredging

- a. In addition to requirements stated elsewhere in this specification, an individual serving as a SSHO must be present at the project site, located so that they have full mobility and reasonable access to all major work operations, for at least one shift in each 24 hour period when work is being performed. The SSHO must be available during their shift for immediate verbal consultation and notification, either by phone or radio.
- b. The SSHO is a full-time, dedicated position, except as noted above, who must report to a senior project (or corporate) official. When the SSHO is permitted to be a collateral duty, the SSHO is not permitted to be in another position requiring continuous mechanical or equipment operations, such as equipment operators.



- c. The SSHO must inspect all work areas and operations during initial set-up and at least monthly observe and provide personal oversight on each shift during dredging operations for projects with many work sites, more often for those with less work sites.

#### 1.6.1.4.3 Collateral Duty Safety Officer (CDSO) Requirements for Dredging

- a. A CDSO is an individual who is assigned collateral duty safety responsibilities in addition to their full-time occupation, and who supports and supplements the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. The assigned CDSO must be an individual(s) with work oversight responsibilities, such as master, mate, fill foreman, or superintendent. A CDSO must not be an employee responsible for continuous mechanical or equipment operations, such as an equipment operator.
- b. A CDSO performs safety program tasks as assigned by the SSHO and must report safety findings to the SSHO. The SSHO must document results of safety findings and provide information for inclusion in the CQC reports to the Contracting Officer.

#### 1.6.1.4.4 Safety Personnel Training Requirements for Dredging

A SSHO and a CDSO for dredging Contracts must take either a formal classroom or online OSHA 30-hour Construction Safety Course, or an equivalent 30 hours of formal classroom or online safety and health training covering the subjects of the OSHA 30-hour Course in accordance with EM 385-1-1 Appendix A, paragraph 3.d.(3), applicable to dredging work, and given by qualified instructors. In exception to EM 385-1-1, Section 01.A.17, comply with the following:

- a. The SSHO must maintain competency through having taken 8 hours of formal classroom or online safety and health related coursework every year. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once (for example, instructing a 1-hour asbestos awareness course five times in a year provides one hour credit for training).
- b. The SSHO and a CDSO must have a minimum of three years of experience within the past five years in one of the following:
  - (1) Supervising/managing dredging activities
  - (2) Supervising/managing marine construction activities
  - (3) Supervising/managing land-based construction activities
  - (4) Work managing safety programs or processes
  - (5) Conducting hazard analyses and developing controls in activities or environments with similar hazards

#### 1.6.1.5 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in EM 385-1-1, Section 15.B for Riggers and Section 16.B for Crane Operators and Signal Persons. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater,



designate crane operators qualified by a source that qualifies crane operators (i.e., union, a Government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualification.

#### 1.6.2 Personnel Duties

##### 1.6.2.1 Duties of the Site Safety and Health Officer (SSHO)

The SSHO must:

- a. 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 Contractors' daily production report.
- b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.
- c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the project site for Prime Contractors and subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the site Safety Bulletin Board.
- d. Maintain applicable safety reference material on the job site.
- e. Attend the pre-construction conference, pre-work meetings including preparatory meetings, and periodic in-progress meetings.
- f. Review the APP and AHAs for compliance with EM 385-1-1, and approve, sign, implement and enforce them.
- g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.
- h. Ensure subcontractor compliance with safety and health requirements.
- i. Maintain a list of hazardous chemicals on site and their material Safety Data Sheets (SDS).
- j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.
- k. Provide and keep a record of site safety orientation and indoctrination for Contractor employees, subcontractor employees, and site visitors.

Superintendent, QC Manager, and SSHO are subject to dismissal if the above or any other required duties are not being effectively carried out. If either the Superintendent, QC Manager, or SSHO is dismissed, project work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.



### 1.6.3 Meetings

#### 1.6.3.1 Preconstruction Conference

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project must attend the preconstruction conference. This includes the project superintendent, Site Safety and Occupational Health Officer, quality control manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).
- b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the Contract. This list of proposed AHAs will be reviewed and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude project delays.
- c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

#### 1.6.3.2 Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors at the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

### 1.7 ACCIDENT PREVENTION PLAN (APP)

#### 1.7.1 ACCIDENT PREVENTION PLAN (APP)

A qualified person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, Appendix A, and as supplemented herein. Cover all paragraph and subparagraph elements in EM 385-1-1, Appendix A. The APP must be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are 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. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated SSHO, the Contractor Quality Control Manager, and any designated Certified Safety Professional (CSP) or Certified Health Physicist (CIH). The SSHO must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the Contract. Disregarding the provisions of this Contract or the accepted APP is cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary, throughout the life of the Contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (i.e. imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSP A10.34), and the environment.

#### 1.7.2 Names and Qualifications

Provide plans in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:

- a. Names and qualifications (resumes including education, training, experience and certifications) of site safety and health personnel designated to perform work on this project to include the designated Site Safety and Health Officer and other competent and qualified personnel to be used. Specify the duties of each position.
- b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

#### 1.7.3 Plans

Provide plans in the APP in accordance with the requirements outlined in Appendix A of EM 385-1-1, including the following:



#### 1.7.3.1 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with EM 385-1-1, Section 16.A.03, using Form 16-2 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of three months.

#### 1.7.3.2 Critical Lift Plan - Crane or Load Handling Equipment

Provide a Critical Lift Plan as required by EM 385-1-1, Section 16.H.01, using Form 16-3. In addition, Critical Lift Plans are required for the following:

- a. Lifts over 50 percent of the capacity of barge mounted mobile crane's hoist.
- b. When working around energized power lines where the work will get closer than the minimum clearance distance in EM 385-1-1 Table 16-1.
- c. For lifts with anticipated binding conditions.
- d. When erecting cranes.

##### 1.7.3.2.1 Critical Lift Plan Planning and Schedule

Critical lifts require detailed planning and additional or unusual safety precautions. Develop and submit a critical lift plan to the Contracting Officer 30 calendar days prior to critical lift. Comply with load testing requirements in accordance with EM 385-1-1, Section 16.F.03.

##### 1.7.3.2.2 Lifts of Personnel

In addition to the requirements of EM 385-1-1, Section 16.H.02, for lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400 and EM 385-1-1, Section 16.T.

#### 1.7.3.3 Barge Mounted Mobile Crane Lift Plan

Provide a Naval Architecture Analysis and include an LHE Manufacturer's Floating Service Load Chart in accordance with EM 385-1-1, Section 16.L.03.

#### 1.7.3.4 Multi-Purpose Machines, Material Handling Equipment, and Construction Equipment Lift Plan

Multi-purpose machines, material handling equipment, and construction equipment used to lift loads that are suspended by rigging gear, require proof of authorization from the machine OEM that the machine is capable of making lifts of loads suspended by rigging equipment. Written approval from a qualified registered professional engineer, after a safety analysis is performed, is allowed in lieu of the OEM's approval. Demonstrate that the operator is properly trained and that the equipment is properly configured to make such lifts and is equipped with a load chart.



#### 1.7.3.5 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with EM 385-1-1 Section 21.N and ASSP Z359.2, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

#### 1.7.3.6 Hazardous Energy Control Program (HECP)

Develop a HECP in accordance with EM 385-1-1 Section 12, 29 CFR 1910.147, 29 CFR 1910.333, 29 CFR 1915.89, ASSP Z244.1, and ASSP A10.44. Submit this HECP as part of the Accident Prevention Plan (APP). Conduct a preparatory meeting and inspection with all effected personnel to coordinate all HECP activities. Document this meeting and inspection in accordance with EM 385-1-1, Section 12.A.02. Ensure that each employee is familiar with and complies with these procedures.

#### 1.7.3.7 Excavation Plan

Identify the safety and health aspects of excavation, and provide and prepare the plan in accordance with EM 385-1-1, Section 25.A and Section 31 00 00 EARTHWORK.

### 1.8 ACTIVITY HAZARD ANALYSIS (AHA)

Before beginning each activity, task or Definable Feature of Work (DFOW) involving a type of work presenting hazards not experienced in previous project operations, or where a new work crew or subcontractor is to perform the work, the Contractor(s) performing that work activity must prepare an AHA. AHAs must be developed by the Prime Contractor, subcontractor, or supplier performing the work, and provided for Prime Contractor review and approval before submitting to the Contracting Officer. AHAs must be signed by the SSHO, Superintendent, QC Manager and the subcontractor Foreman performing the work. Format the AHA in accordance with EM 385-1-1, Section 1 or as directed by the Contracting Officer. Submit the AHA for review at least 15 working days prior to the start of each activity task, or DFOW. The Government reserves the right to require the Contractor to revise and resubmit the AHA if it fails to effectively identify the work sequences, specific anticipated hazards, site conditions, equipment, materials, personnel and the control measures to be implemented.

AHAs must identify competent persons required for phases involving high risk activities, including confined entry, crane and rigging, excavations, trenching, electrical work, fall protection, and scaffolding.

#### 1.8.1 AHA Management

Review the AHA list periodically (at least monthly) at the Contractor supervisory safety meeting, and update as necessary when procedures, scheduling, or hazards change. Use the AHA during daily inspections by the SSHO to ensure the implementation and effectiveness of the required safety and health controls for that work activity.

#### 1.8.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFOW must



review the AHA for that work and sign a signature log specifically maintained for that AHA prior to starting work on that activity. The SSHO must maintain a signature log on site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

## 1.9 DISPLAY OF SAFETY INFORMATION

### 1.9.1 Safety Bulletin Board

Prior to commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, Section 01.A.07. Additional items required to be posted include:

### 1.9.2 Safety and Occupational Health (SOH) Deficiency Tracking System

Establish a SOH deficiency tracking system that lists and monitors the status of SOH deficiencies in chronological order. Use the tracking system to evaluate the effectiveness of the APP. A monthly evaluation of the data must be discussed in the QC or SOH meeting with everyone on the project. The list must be posted on the project bulletin board and updated daily, and provide the following information:

- a. Date deficiency identified;
- b. Description of deficiency;
- c. Name of person responsible for correcting deficiency;
- d. Projected resolution date;
- e. Date actually resolved.

## 1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals.

## 1.11 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. Government has no responsibility to provide emergency medical treatment.

## 1.12 NOTIFICATIONS and REPORTS

### 1.12.1 Mishap Notification

Notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined in EM 385-1-1 Appendix Q, any report of injury, illness, or any property damage. For LHE or rigging



mishaps, notify the Contracting Officer as soon as practical but not more than four hours after mishap. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

Within notification include Contractor name; Contract title; type of Contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (for example, type of construction equipment used and PPE used). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted. Assist and cooperate fully with the Government's investigation(s) of any mishap.

#### 1.12.2 Accident Reports

- a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report ENG Form 3394, and provide the report to the Contracting Officer within 5 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms.
- b. Near Misses: For Army projects, report all "Near Misses" to the GDA, using local mishap reporting procedures, within 24 hrs. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.
- c. Conduct an accident investigation for any load handling equipment accident (including rigging accidents) to establish the root cause(s) of the accident. Complete the LHE Accident Report (Crane and Rigging Accident Report) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. The Contracting Officer will provide a blank copy of the accident report form.

#### 1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 and as specified herein with Daily Reports of Inspections.

#### 1.12.4 Certificate of Compliance and Pre-lift Plan/Checklist for LHE and Rigging

Provide a FORM 16-1 Certificate of Compliance for LHE entering an activity under this Contract and in accordance with EM 385-1-1. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with EM 385-1-1, Section



16.H.03 using Form 16-2 Standard Pre-Lift Crane Plan/Checklist for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

#### 1.13 RADIATION SAFETY REQUIREMENTS

Submit License Certificates, employee training records, and Leak Test Reports for radiation materials and equipment to the Contracting Officer and Radiation Safety Office (RSO) for all specialized and licensed material and equipment proposed for use on the construction project (excludes portable machine sources of ionizing radiation including moisture density and X-Ray Fluorescence (XRF)). Maintain on-site records whenever licensed radiological materials or ionizing equipment are on Government property.

Protect workers from radiation exposure in accordance with 10 CFR 20, ensuring any personnel exposures are maintained As Low As Reasonably Achievable.

#### 1.14 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must comply with the applicable Storm Plan and:

- a. Secure outside equipment and materials and place materials that could be damaged in protected areas.
- b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.
- c. Ensure that temporary erosion controls are adequate.

#### PART 2 PRODUCTS

Not Used

#### PART 3 EXECUTION

##### 3.1 CONSTRUCTION AND OTHER WORK

Comply with EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes:

- a. Hard Hat
- b. Long Pants
- c. Appropriate Safety Shoes
- d. Appropriate Class Reflective Vests



### 3.1.1 Worksite Communication

Employees working alone in a remote location or away from other workers must be provided an effective means of emergency communications (i.e., cellular phone, two-way radios, land-line telephones or other acceptable means). The selected communication must be readily available (easily within the immediate reach) of the employee and must be tested prior to the start of work to verify that it effectively operates in the area/environment. Develop an employee check-in/check-out communication procedure to ensure employee safety.

### 3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this Contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval. Notify the Radiation Safety Officer (RSO) prior to excepted items of radioactive material and devices being brought on base.

### 3.1.3 Unforeseen Hazardous Material

Contract documents identify materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (i.e. 29 CFR 1910.1000). If material(s) that may be hazardous to human health upon disturbance are encountered during construction operations, stop that portion of work, notify the Contracting Officer immediately and 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.

## 3.2 EQUIPMENT

### 3.2.1 Material Handling Equipment (MHE)

- a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.
- b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.



- c. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

### 3.2.2 Load Handling Equipment (LHE)

The following requirements apply. In exception, these requirements do not apply to commercial truck mounted and articulating boom cranes used solely to deliver material and supplies (not prefabricated components, structural steel, or components of a systems-engineered metal building) where the lift consists of moving materials and supplies from a truck or trailer to the ground; to cranes installed on mechanics trucks that are used solely in the repair of shore-based equipment; to crane that enter the activity but are not used for lifting; nor to other machines not used to lift loads suspended by rigging equipment. However, LHE accidents occurring during such operations must be reported.

- a. Equip cranes and derricks as specified in EM 385-1-1, Section 16.
- b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, in accordance with EM 385-1-1, Section 16.A.02, so that necessary quality assurance spot checks can be coordinated. Contractor's operator must remain with the crane during the spot check. Rigging gear must be in accordance with OSHA, ASME B30.9 Standards and federal, state, and local safety standards.
- c. Comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.
- d. As applicable, comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices and ASME B30.26 for rigging hardware.
- e. As applicable, when operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME B30.5 or ASME B30.22 as applicable.
- f. Do not use crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally, submit a specific AHA for this work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.
- g. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.
- h. All employees must keep clear of loads about to be lifted and of suspended loads, except for employees required to handle the load.
- i. Use cribbing when performing lifts on outriggers.
- j. The crane hook/block must be positioned directly over the load. Side



loading of the crane is prohibited.

- k. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.
- l. Maintain inspection records in accordance by EM 385-1-1, Section 16.D, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.
- m. Maintain written reports of operational and load testing in accordance with EM 385-1-1, Section 16.F, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.
- n. Certify that all LHE operators have been trained in proper use of all safety devices (e.g. anti-two block devices).
- o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.
- q. Follow FAA guidelines when required based on project location.

### 3.2.3 Machinery and Mechanized Equipment

- a. Proof of qualifications for operator must be kept on the project site for review.
- b. Manufacture specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

### 3.2.4 Use of Explosives

Explosives must not be used or brought to the project site.

## 3.3 EXCAVATIONS

Soil classification must be performed by a competent person in accordance with 29 CFR 1926 and EM 385-1-1.

### 3.3.1 Utility Locations

Provide a third party, independent, private utility locating company to positively identify underground utilities in the work area.

### 3.3.2 Utility Location Verification

Physically verify all underground utility locations, including utility



depth, by potholing using water, air with non-conductive ends and can include hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within 3 feet of the underground system.

De-energize the circuit for medium voltage cable or direct buried medium voltage cables prior to performing any construction activities within 3 feet of the circuit. If the circuit is reenergized while still exposed, a barrier with danger signs must be provided to limit the approach boundary to 10 feet. De-energize the circuit prior to reentering the 10 feet boundary.

When the excavation will expose and undermine a concrete encased duct bank, submit a concrete encased duct bank electrical support plan for government acceptance prior to undermining the duct bank.

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## SECTION 01 45 00.00 10

## QUALITY CONTROL

## PART 1 GENERAL

## 1.1 REFERENCES

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

## ASTM INTERNATIONAL (ASTM)

ASTM D3740 (2019) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

ASTM E329 (2021) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

## 1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program. Include all associated costs in the applicable Bid Schedule item.

## 1.3 SUBMITTALS

Government approval is required for submittals with a "G" classifications; submittals not having a "G" classification are for information only. When used, a code following the "G" classifications identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control (CQC) Plan; G, AO

SD-06 Test Reports

Verification Statement

## PART 2 PRODUCTS

Not Used

## PART 3 EXECUTION

## 3.1 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with FAR 52.246-12 "Inspection of Construction." QC consist of



plans, procedures, and organization necessary to produce an end product which complies with the Contract requirements. The QC system covers all construction operations, both onsite and offsite, and must be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the Contract. In this context the highest level manager responsible for the overall construction activities at the site, including quality and production is the project superintendent. The project superintendent must maintain a physical presence at the site at all times and is responsible for all construction and related activities at the site, except as otherwise acceptable to the Contracting Officer.

### 3.2 CONTRACTOR QUALITY CONTROL (CQC) PLAN

Submit no later than 10 calendar days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of FAR 52.246-12 "Inspection of Construction." The Government will consider an interim plan for the first 30 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional work.

#### 3.2.1 Content of the CQC Plan

Include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. 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. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the CQC System Manager. Furnish copies of these letters to the Contracting Officer.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance 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. (Laboratory facilities approved by the Contracting Officer are required to be used.)



- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and is identified by different trades or disciplines, or it is work by the same trade in a different environment. Although each section of the specifications can generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

### 3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the Contractor Quality Control(CQC) Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

### 3.2.3 Notification of Changes

After acceptance of the CQC Plan, notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

## 3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. Submit the CQC Plan a minimum of 10 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the CQC operations, control 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. Minutes of the meeting will be prepared by the Government, signed by both the Contractor and the Contracting Officer and will become a part of the contract file. There can be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in the CQC system or procedures which can require corrective action by the Contractor.

## 3.4 QUALITY CONTROL ORGANIZATION

### 3.4.1 Personnel Requirements

The requirements for the CQC organization are a Safety and Health Manager, CQC System Manager, and sufficient number of additional qualified



personnel to ensure safety and Contract compliance. The Safety and Health Manager reports directly to a senior project (or corporate) official independent from the CQC System Manager. The Safety and Health Manager will also serve as a member of the CQC Staff. Include personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly as part of the CQC organization. The Contractor's CQC staff maintains a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure Contract compliance. The CQC staff will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Promptly complete and furnish all letters, material submittals, shop drawing submittals, schedules and all other project documentation to the CQC organization. The CQC organization is responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

#### 3.4.2 CQC System Manager

Identify as CQC System Manager an individual within the onsite work organization that is responsible for overall management of CQC and has the authority to act in all CQC matters for the Contractor. The CQC System Manager is required to be a construction person with a minimum of 5 years in related work. This CQC System Manager is on the site at all times during construction and is employed by the prime Contractor. The CQC System Manager is assigned as CQC System Manager, but may have duties as SSHO and project superintendent in addition to quality control and meets the qualifications for each position. Identify in the plan an alternate to serve in the event of the CQC System Manager's absence. The requirements for the alternate are the same as the CQC System Manager.

#### 3.4.3 CQC Personnel

Maintain a staff under the direction of the CQC system manager to perform all QC activities. The staff must be of sufficient size to ensure adequate QC coverage of all work phases, work shifts, and work crews involved in the construction. These personnel may perform other duties, but must be fully qualified by experience and technical training to perform their assigned QC responsibilities and must be allowed sufficient time to carry out these responsibilities. Clearly state the duties and responsibilities of each staff member in the QC Plan. Other technical specifications may specify individuals for maintaining quality control for specific areas of work.

#### 3.4.4 Assignment of CQC System Manager, Project Superintendent, and SSHO Responsibilities

The CQC System Manager, Project Superintendent, and Site Safety and Health Officer (SSHO) may be one individual if this individual meets all requirements specified for each position.

#### 3.4.5 Construction Quality Management Course - Post-COVID-19 Restrictions

In addition to the above experience and education requirements, the Contractor Quality Control(CQC) System Manager and Alternate CQC System Manager are required to have completed the Construction Quality Management (CQM) for Contractors course. If the CQC System Manager does not have a current certification, obtain the CQM for Contractors course certification



within 90 days of award. This course is periodically offered at offices indicated at the following web site:

<http://www.nwo.usace.army.mil/BusinessWithUs/Contracting/QualityManagement.aspx>

The exact date and location for the sessions will be determined approximately 30 days in advance by the trainer (POC). Cost varies by location per student.

The Construction Quality Management Training certificate expires after 5 years. If the CQC System Manager's certificate has expired, retake the course to remain current.

#### 3.4.6 Organizational Changes

Maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

#### 3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, have to comply with the requirements in Section 01 33 00 SUBMITTAL PROCEDURES. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the contract requirements. When Section 01 91 00.15 10 TOTAL BUILDING COMMISSIONING are included in the contract, the submittals required by those sections have to be coordinated with Section 01 33 00 SUBMITTAL PROCEDURES to ensure adequate time is allowed for each type of submittal required.

#### 3.6 CONTROL

CQC is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control are required to be conducted by the CQC System Manager for each definable feature of the construction work as follows:

##### 3.6.1 Preparatory Phase

This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase includes:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the work.
- b. Review of the Contract drawings.
- c. Check to assure that all materials and equipment have been tested, submitted, and approved.
- d. Review of provisions that 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. Examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. Review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. Check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government needs to be notified at least 48 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the CQC System Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

### 3.6.2 Initial Phase

This phase is accomplished at the beginning of a definable feature of work. Accomplish the following:

- a. Check work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing are in compliance with the contract.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government needs to be notified at least 48 hours in advance of beginning the initial phase for definable feature of work. Prepare separate minutes of this phase by the CQC System Manager and attach to the daily CQC report. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases.



- g. The initial phase for each definable feature of work is repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

### 3.6.3 Follow-up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. Record the checks in the CQC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may be affected by the deficient work. Do not build upon nor conceal non-conforming work.

### 3.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

## 3.7 TESTS

### 3.7.1 Testing Procedure

Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and acceptance tests when specified. Procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. Perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Record results of all tests taken, both passing and failing on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by the Contracting Officer, actual test reports are submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to the Contracting Officer. Failure to submit timely test reports as stated results in nonpayment for related work performed and disapproval of the test facility for this Contract.



### 3.7.2 Testing Laboratories

All testing laboratories must be validated by the USACE Material Testing Center (MTC) for the tests to be performed. Information on the USACE MTC with web-links to both a list of validated testing laboratories and for the laboratory inspection request for can be found at:

<https://mtc.erdcdren.mil/>

Click on "Lab Validation"  
Search for a Validation

#### 3.7.2.1 Capability Check

The Government reserves the right to check 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. Laboratories utilized for testing soils, concrete, asphalt, and steel is required to meet criteria detailed in ASTM D3740 and ASTM E329.

#### 3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed the actual cost for the recheck to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the Contract amount due the Contractor.

### 3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

## 3.8 COMPLETION INSPECTION

### 3.8.1 Punch-Out Inspection

Conduct an inspection of the work by the CQC System Manager near the end of the work, or any increment of the work established by a time stated in FAR 52.211-10 "Commencement, Prosecution, and Completion of Work", or by the specifications. Prepare and include in the CQC documentation a punch list of items which do not conform to the approved drawings and specifications, as required by paragraph DOCUMENTATION. Include within the list of deficiencies the estimated date by which the deficiencies will be corrected. Make a second inspection by the CQC System Manager or staff to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the Government that the facility is ready for the Government Pre-Final inspection.

### 3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. Ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Correct any items noted on the Pre-Final inspection in a



timely manner. These inspections and any deficiency corrections required by this paragraph need to be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

### 3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative is required to be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands can also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notify the Contracting Officer at least 14 days prior to the final acceptance inspection and include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the Contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with FAR 52.246-12 "Inspection of Construction".

### 3.9 DOCUMENTATION

Maintain current records providing factual evidence that required quality control activities and tests have been performed. Include in these records the work of subcontractors and suppliers on an acceptable form that includes, as a minimum, the following information:

- a. The name and area of responsibility of the Contractor/Subcontractor.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and control activities performed with results and references to specifications/drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.
- g. Offsite surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions. Include information identified by the "Responsible Individual(s)" for Safety as outlined in Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.



- i. Instructions given/received and conflicts in plans and/or specifications.
- k. Verification Statement.

Indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. Furnish the original and one copy of these records in report form to the Contracting Officer's Representative on the first day following the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. The Government may elect to process these records electronically. Coordinate with the Contracting Officer's Representative. As a minimum, prepare and submit one report for every 7 days of no work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the contract. The first report following a day of no work will be for that day only. Reports need to be signed and dated by the Contractor Quality Control (CQC) System Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel within the CQC System Manager Report.

### 3.10 SAMPLE FORMS

Generate daily quality control reports using the Government-furnished Construction Contractor Module of RMS specified in Section 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM).

### 3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, will be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer can issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

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## SECTION 01 45 00.15 10

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## SECTION 01 45 00.15 10

## RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM)

## PART 1 GENERAL

## 1.1 REFERENCES

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

## U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements Manual

## 1.2 MEASUREMENT AND PAYMENT

The work of this section is not measured for payment. The Contractor is responsible for the work of this section, without any direct compensation other than the payment received for contract items.

## 1.3 CONTRACT ADMINISTRATION

The Government will use the Resident Management System (RMS) to assist in its monitoring and administration of this contract. The Government accesses the system using the Government Mode of RMS (RMS GM) and the Contractor accesses the system using the Contractor Mode (RMS CM). The term RMS will be used in the remainder of this section for both RMS GM and RMS CM. The joint Government-Contractor use of RMS facilitates electronic exchange of information and overall management of the contract. The Contractor accesses RMS to record, maintain, input, track, and electronically share information with the Government throughout the contract period in the following areas:

- Administration
- Finances
- Quality Control
- Submittal Monitoring
- Scheduling
- Closeout
- Import/Export of Data

## 1.3.1 Correspondence and Electronic Communications

For ease and speed of communications, exchange correspondence and other documents in electronic format to the maximum extent feasible. Some correspondence, including pay requests and payrolls, are also to be provided in paper format with original signatures. Paper documents will govern, in the event of discrepancy with the electronic version.

## 1.3.2 Other Factors

Other portions of this document have a direct relationship to the



reporting accomplished through RMS. Particular attention is directed to FAR 52.236-15 Schedules for Construction Contracts; FAR 52.232-27 Prompt Payment for Construction Contracts; FAR 52.232-5 Payments Under Fixed-Priced Construction Contracts; Section 01 33 00 SUBMITTAL PROCEDURES; Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS; and Section 01 45 00.00 10 QUALITY CONTROL.

#### 1.4 RMS SOFTWARE

RMS is a web based application. Download, install and be able to utilize the latest version of RMS within 7 calendar days of receipt of the Notice to Proceed. RMS software, user manuals, access and installation instructions, program updates and training information are available from the RMS website (<https://rms.usace.army.mil>). The Government and the Contractor will have different access authorities to the same contract database through RMS. The common database will be updated automatically each time a user finalizes an entry or change.

#### 1.5 CONTRACT DATABASE - GOVERNMENT

The Government will enter the basic contract award data in RMS prior to granting the Contractor access. The Government entries into RMS will generally be related to submittal reviews, correspondence status, and Quality Assurance(QA)comments, as well as other miscellaneous administrative information.

#### 1.6 CONTRACT DATABASE - CONTRACTOR

Contractor entries into RMS establish, maintain, and update data throughout the duration of the contract. Contractor entries generally include prime and subcontractor information, daily reports, submittals, RFI's, schedule updates and payment requests. RMS includes the ability to import attachments and export reports in many of the modules, including submittals. The Contractor responsibilities for entries in RMS typically include the following items:

##### 1.6.1 Administration

##### 1.6.1.1 Contractor Information

Enter all current Contractor administrative data and information into RMS within 7 calendar days of receiving access to the contract in RMS. This includes, but is not limited to, Contractor's name, address, telephone numbers, management staff, and other required items.

##### 1.6.1.2 Subcontractor Information

Enter all missing subcontractor administrative data and information into RMS CM within 7 calendar days of receiving access to the contract in RMS or within 7 calendar days of the signing of the subcontractor agreement for agreements signed at a later date. This includes name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor is listed separately for each trade to be performed.

##### 1.6.1.3 Correspondence

Identify all Contractor correspondence to the Government with a serial number. Prefix correspondence initiated by the Contractor's site office



with "S". Prefix letters initiated by the Contractor's home (main) office with "H". Letters are numbered starting from 0001. (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C" or "RFP".

#### 1.6.1.4 Equipment

Enter and maintain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

#### 1.6.1.5 Reports

Track the status of the project utilizing the reports available in RMS. The value of these reports is reflective of the quality of the data input. These reports include the Progress Payment Request worksheet, Quality Control (QC) comments, Submittal Register Status, and Three-Phase Control worksheets.

#### 1.6.1.6 Request For Information (RFI)

Create and track all Requests For Information (RFI) in the RMS Administration Module for Government review and response.

### 1.6.2 Finances

#### 1.6.2.1 Pay Activity Data

Develop and enter a list of pay activities in conjunction with the project schedule. The sum of pay activities equals the total contract amount, including modifications. Each pay activity must be assigned to a Contract Line Item Number (CLIN). The sum of the activities assigned to a CLIN equals the amount of each CLIN.

#### 1.6.2.2 Payment Requests

Prepare all progress payment requests using RMS. Update the work completed under the contract at least monthly, measured as percent or as specific quantities. After the update, generate a payment request and prompt payment certification using RMS. Submit the signed prompt payment certification and payment request as well as supporting data either electronically or by hard copy. Unless waived by the Contracting Officer, a signed paper copy of the approved payment certification and request is also required and will govern in the event of discrepancy with the electronic version.

### 1.6.3 Quality Control (QC)

Enter and track implementation of the 3-phase QC Control System, QC testing, transferred and installed property and warranties in RMS. Prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements in RMS. Maintain all data on a daily basis. Insure that RMS reflects all quality control methods, tests and actions contained within the Contractor Quality Control (CQC) Plan and Government review comments of same within 7 calendar days of Government acceptance of the CQC Plan.



#### 1.6.3.1 Quality Control (QC) Reports

The Contractor's Quality Control (QC) Daily Report in RMS is the official report. The Contractor can use other supplemental formats to record QC data, but information from any supplemental formats are to be consolidated and entered into the RMS QC Daily Report. Any supplemental information may be entered into RMS as an attachment to the report. QC Daily Reports must be finalized and signed in RMS within 24 hours after the date covered by the report. Provide the Government a printed signed copy of the QC Daily Report, unless waived by the Contracting Officer.

#### 1.6.3.2 Deficiency Tracking.

Use the QC Daily Report Module to enter and track deficiencies. Deficiencies identified and entered into RMS by the Contractor or the Government will be sequentially numbered with a QC or QA prefix for tracking purposes. Enter each deficiency into RMS the same day that the deficiency is identified. Monitor, track and resolve all QC and QA entered deficiencies. A deficiency is not considered to be corrected until the Government indicates concurrence in RMS.

#### 1.6.3.3 Three-Phase Control Meetings

Maintain scheduled and actual dates and times of preparatory and initial control meetings in RMS. Worksheets for the three-phase control meetings are generated within RMS.

#### 1.6.3.4 Labor and Equipment Hours

Enter labor and equipment exposure hours on a daily basis. Roll up the labor and equipment exposure data into a monthly exposure report.

#### 1.6.3.5 Accident/Safety Reporting

Both the Contractor and the Government enter safety related comments in RMS as a deficiency. The Contractor must monitor, track and show resolution for safety issues in the QC Daily Report area of the RMS QC Module. In addition, follow all reporting requirements for accidents and incidents as required in EM 385-1-1, Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS and as required by any other applicable Federal, State or local agencies.

#### 1.6.3.6 Definable Features of Work

Enter each feature of work, as defined in the approved CQC Plan, into the RMS QC Module. A feature of work may be associated with a single or multiple pay activities, however a pay activity is only to be linked to a single feature of work.

#### 1.6.3.7 Activity Hazard Analysis

Import activity hazard analysis electronic document files into the RMS QC Module utilizing the document package manager.

#### 1.6.4 Submittal Management

Enter all current submittal register data and information into RMS within 7 calendar days of receiving access to the contract in RMS. The information shown on the submittal register following the specification



Section 01 33 00 SUBMITTAL PROCEDURES will already be entered into the RMS database when access is granted. Group electronic submittal documents into transmittal packages to send to the Government, except very large electronic files, samples, spare parts, mock ups, color boards, or where hard copies are specifically required. Track transmittals and update the submittal register in RMS on a daily basis throughout the duration of the contract. Submit hard copies of all submittals unless waived by the Contracting Officer.

#### 1.6.5 Schedule

Enter and update the contract project schedule in RMS by either manually entering all schedule data or by importing the Standard Data Exchange Format (SDEF) file, based on the requirements in Section 01 32 01.00 10 PROJECT SCHEDULE.

#### 1.6.6 Closeout

Closeout documents, processes and forms are managed and tracked in RMS by both the Contractor and the Government. Ensure that all closeout documents are entered, completed and documented within RMS.

#### 1.7 IMPLEMENTATION

Use of RMS as described in the preceding paragraphs is mandatory. Ensure that sufficient resources are available to maintain contract data within the RMS system. RMS is an integral part of the Contractor's required management of quality control.

#### 1.8 NOTIFICATION OF NONCOMPLIANCE

Take corrective action within 7 calendar days after receipt of notice of RMS non-compliance by the Contracting Officer.

#### PART 2 PRODUCTS

Not Used

#### PART 3 EXECUTION

Not Used

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## SECTION 01 57 20.00 10

## ENVIRONMENTAL PROTECTION

## PART 1 GENERAL

## 1.1 REFERENCES

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

## U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements Manual

WETLAND MANUAL Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1

## U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 328 Definitions of Waters of the United States

40 CFR 150 - 189 Pesticide Programs

40 CFR 261 Identification and Listing of Hazardous Waste

40 CFR 262 Standards Applicable to Generators of Hazardous Waste

40 CFR 279 Standards for the Management of Used Oil

40 CFR 302 Designation, Reportable Quantities, and Notification

40 CFR 355 Emergency Planning and Notification

40 CFR 68 Chemical Accident Prevention Provisions

49 CFR 171 - 178 Hazardous Materials Regulations

## 1.2 DEFINITIONS

## 1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.



### 1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

### 1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners, excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

### 1.2.4 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor must discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" must occur. Land Application must be in compliance with all applicable Federal, State, and local laws and regulations.

### 1.2.5 Pests

The term "pests" means arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

### 1.2.6 Pesticide

Pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant.

### 1.2.7 Project Pesticide Coordinator

The Project Pesticide Coordinator (PPC) is an individual that resides at a Civil Works Project office and that is responsible for oversight of pesticide application on Project grounds.

### 1.2.8 Surface Discharge

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "waters of the United States" and would require a



permit to discharge water from the governing agency.

#### 1.2.9 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

#### 1.2.10 Wetlands

Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with WETLAND MANUAL.

### 1.3 GENERAL REQUIREMENTS

Minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work must be protected during the entire duration of this contract. Comply with all applicable environmental Federal, State, and local laws and regulations. Any delays resulting from failure to comply with environmental laws and regulations will be the Contractor's responsibility.

### 1.4 SUBCONTRACTORS

Ensure compliance with this section by subcontractors.

### 1.5 PAYMENT

No separate payment will be made for work covered under this section. Payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor, and payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations are the Contractor's responsibility. All costs associated with this section must be included in the contract price.

### 1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G-AO

The environmental protection plan.

### 1.7 ENVIRONMENTAL COORDINATION, PERMITS, NOTICES, REVIEWS AND/OR APPROVALS

The Contractor shall be responsible for contacting the appropriate Federal, State, Regional, and local environmental agencies to identify all required environmental permits (construction and operating), notices, reviews, and approvals required for the project. Once the requirements



are identified, the Contractor shall be responsible for coordinating the requirements with the Contracting Officer in regard to implementation for the project. The Contractor shall ensure that all coordination, permits, notices, reviews and/or approvals are completed and submitted with each applicable phase of the design. Prior to construction starting for any phase, the Contractor shall assure that all permits and/or approvals are received and copies are submitted to the Contracting Officer. The Contractor shall be responsible for any contract delays resulting from failure to obtain environmental permits, notices, reviews and/or approvals when required.

#### 1.7.1 US Army Corps of Engineers 404 Permit

The Army Corps of Engineers is currently issuing coverage for this work under a Nationwide Maintenance Permit Number 33 CFR Part 323, Section 323.4 Discharge Not Requiring Permits. Because there are no new structures and only repairs of existing structures the 404 permit is covered under the exemption for maintenance.

### 1.8 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern must be defined within the Environmental Protection Plan as outlined in this section. Address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but are considered necessary, must be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan must be current and maintained onsite by the Contractor.

#### 1.8.1 Compliance

No requirement in this Section will relieve the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor will be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

#### 1.8.2 Contents

Include in the environmental protection plan, but not limit it to, the following:

- a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.



- c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
- d. Description of the Contractor's environmental protection personnel training program.
- e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan must include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations. A Storm Water Pollution Prevention Plan (SWPPP) may be substituted for this plan.
- f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.
- g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.
- h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.
- i. Drawing showing the location of borrow areas.
- j. Include in the Spill Control plan the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. Include in this plan, as a minimum:
  - (1) The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual will immediately notify the Contracting Officer and the local Fire Department in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. Include in the plan a list of the required reporting channels and telephone numbers.
  - (2) The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.
  - (3) Training requirements for Contractor's personnel and methods of accomplishing the training.
  - (4) A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s)



identified.

- (5) The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
  - (6) The methods and procedures to be used for expeditious contaminant cleanup.
- k. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris and schedules for disposal.
- (1) Identify any subcontractors responsible for the transportation and disposal of solid waste. Submit licenses or permits for solid waste disposal sites that are not a commercial operating facility.
  - (2) Evidence of the disposal facility's acceptance of the solid waste must be attached to this plan during the construction. Attach a copy of each of the Non-hazardous Solid Waste Diversion Reports to the disposal plan. Submit the report for the previous quarter on the first working day after the first quarter that non-hazardous solid waste has been disposed and/or diverted (e.g. the first working day of January, April, July, and October).
  - (3) Indicate in the report the total amount of waste generated and total amount of waste diverted in cubic yards or tons along with the percent that was diverted.
  - (4) A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. Detail in the plan the Contractor's actions to comply with and to participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.
- l. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.
- m. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be onsite at any given time must be included in the contaminant prevention plan. Update the plan as new hazardous materials are brought onsite or removed from the site.
- n. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of groundwater, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan must include the design of the pond including drawings, removal plan, and testing requirements



for possible pollutants. If land application will be the method of disposal for the waste water, the plan must include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, include a copy of the permit and associated documents as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan must include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

- o. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. Include in the plan methods to assure the protection of known or discovered resources, identifying lines of communication between Contractor personnel and the Contracting Officer.
- p. Include and update a pesticide treatment plan, as information becomes available. Include in the plan: sequence of treatment, dates, times, locations, pesticide trade name, EPA registration numbers, authorized uses, chemical composition, formulation, original and applied concentration, application rates of active ingredient (i.e. pounds of active ingredient applied), equipment used for application and calibration of equipment. Federal, State, Regional and Local pest management record keeping and reporting requirements as well as any additional Installation Project Office specific requirements are the Contractor's responsibility in conformance with DA AR 200-1 Chapter 5--Pest Management, Section 5-4 "Program requirements" for data required to be reported to the Installation.

### 1.8.3 Appendix

Attach to the Environmental Protection Plan, as an appendix, copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents.

## 1.9 PROTECTION FEATURES

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any onsite construction activities, the Contractor and the Contracting Officer will make a joint condition survey. Immediately following the survey, the Contractor will prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report will be signed by both the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor must protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the work under the contract.



### 1.10 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations from the drawings, plans and specifications, requested by the Contractor and which may have an environmental impact, will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

### 1.11 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. After receipt of such notice, the Contractor will inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions will be granted or equitable adjustments allowed for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

## PART 2 PRODUCTS (NOT USED)

## PART 3 EXECUTION

### 3.1 LAND RESOURCES

Confine all activities to areas defined by the drawings and specifications. Identify any land resources to be preserved within the work area prior to the beginning of any construction. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval, except in areas indicated on the drawings or specified to be cleared. Ropes, cables, or guys will not be fastened to or attached to any trees for anchorage unless specifically authorized. Provide effective protection for land and vegetation resources at all times, as defined in the following subparagraphs. Remove stone, soil, or other materials displaced into uncleared areas.

#### 3.1.1 Work Area Limits

Mark the areas that need not be disturbed under this contract prior to commencing construction activities. Mark or fence isolated areas within the general work area which are not to be disturbed. Protect monuments and markers before construction operations commence. Where construction operations are to be conducted during darkness, any markers must be visible in the dark. The Contractor's personnel must be knowledgeable of the purpose for marking and/or protecting particular objects.

#### 3.1.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved must be clearly identified by marking, fencing, or wrapping with boards, or any other



approved techniques. Restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

### 3.1.3 Erosion and Sediment Controls

Providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations is the Contractor's responsibility. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. Construct or install temporary and permanent erosion and sediment control best management practices (BMPs). BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. Remove any temporary measures after the area has been stabilized.

### 3.1.4 Contractor Facilities and Work Areas

Place field offices, staging areas, stockpile storage, and temporary buildings in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities will be made only when approved. Erosion and sediment controls must be provided for onsite borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas must be controlled to protect adjacent areas.

## 3.2 WATER RESOURCES

Monitor all water areas affected by construction activities to prevent pollution of surface water and groundwater. Do not apply toxic or hazardous chemicals to soil or vegetation unless otherwise indicated. For construction activities immediately adjacent to impaired surface waters, the Contractor must be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

### 3.2.1 Wetlands

Do not enter, disturb, destroy, or allow discharge of contaminants into any wetlands.

## 3.3 AIR RESOURCES

Equipment operation, activities, or processes will be in accordance with all Federal and State air emission and performance laws and standards.

### 3.3.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, such as from asphaltic batch plants; must be controlled at all times, including weekends, holidays and hours when work is not in progress. Maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause



the Federal, State, and local air pollution standards to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. Provide sufficient, competent equipment available to accomplish these tasks. Perform particulate control as the work proceeds and whenever a particulate nuisance or hazard occurs. Comply with all State and local visibility regulations.

### 3.3.2 Odors

Odors from construction activities must be controlled at all times. The odors must be in compliance with State regulations and/or local ordinances and may not constitute a health hazard.

### 3.3.3 Sound Intrusions

Keep construction activities under surveillance and control to minimize environment damage by noise. Comply with the provisions of the State's rules in which the work is being performed in.

### 3.3.4 Burning

Burning is prohibited on the Government premises.

## 3.4 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes will be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

### 3.4.1 Solid Wastes

Place solid wastes (excluding clearing debris) in containers which are emptied on a regular schedule. Handling, storage, and disposal must be conducted to prevent contamination. Employ segregation measures so that no hazardous or toxic waste will become co-mingled with solid waste. Transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill will be the minimum acceptable offsite solid waste disposal option. Verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate. Comply with Federal, State, and local laws and regulations pertaining to the use of landfill areas.

### 3.4.2 Chemicals and Chemical Wastes

Dispense chemicals ensuring no spillage to the ground or water. Perform and document periodic inspections of dispensing areas to identify leakage and initiate corrective action. This documentation will be periodically reviewed by the Government. Collect chemical waste in corrosion resistant, compatible containers. Collection drums must be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes will be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

### 3.4.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by



applicable State and local regulations. Hazardous materials are defined in 49 CFR 171 - 178. At a minimum, manage and store hazardous waste in compliance with 40 CFR 262 in accordance with the Project Office hazardous waste management plan. Take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. Segregate hazardous waste from other materials and wastes, protect it from the weather by placing it in a safe covered location, and take precautionary measures such as berming or other appropriate measures against accidental spillage. Storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations is the Contractor's responsibility. Transport Contractor generated hazardous waste off Government property within 60 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. Dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials must be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills are the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility. Coordinate the disposition of hazardous waste with the Project Office's Hazardous Waste Manager and the Contracting Officer.

#### 3.4.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles must be conducted in a manner that affords the maximum protection against spill and evaporation. Manage and store fuel, lubricants and oil in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded must be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. Storage of fuel on the project site is not allowed. Fuel must be brought to the project site each day that work is performed. Storage of fuel on the project site will be in accordance with all Federal, State, and local laws and regulations.

#### 3.4.5 Waste Water

Disposal of waste water will be as specified below.

- a. Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. will not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. Dispose of the construction related waste water off-Government property in accordance with all Federal, State, Regional and Local laws and regulations.
- b. For discharge of ground water, the Contractor shall obtain a State or Federal permit specific for pumping and discharging ground water prior to surface discharging. In South Dakota the contractor may also need to obtain a Temporary Water Right Permit from the SDDENR Water Rights Program for any dewatering. The SDDENR Water Rights Program can be contacted at (605)773-3352 to determine if a permit is required.
- c. Water generated from the flushing of lines after disinfection or disinfection in conjunction with hydrostatic testing will be land



applied in accordance with all Federal, State, and local laws and regulations for land application or discharged into the sanitary sewer with prior approval and/or notification to the Waste Water Treatment Plant's Operator.

### 3.5 RECYCLING AND WASTE MINIMIZATION

Participate in State and local government sponsored recycling programs. The Contractor is further encouraged to minimize solid waste generation throughout the duration of the project.

### 3.6 NON-HAZARDOUS SOLID WASTE DIVERSION REPORT

Maintain an inventory of non-hazardous solid waste diversion and disposal of construction and demolition debris. Submit a report to the Contracting Officer on the first working day after each fiscal year quarter, starting the first quarter that non-hazardous solid waste has been generated. Include the following in the report:

- a. Construction and Demolition (C&D) Debris Disposed = \_\_\_\_\_ in cubic yards or tons, as appropriate.
- b. Construction and Demolition (C&D) Debris Recycled = \_\_\_\_\_ in cubic yards or tons, as appropriate.
- c. Total C&D Debris Generated = \_\_\_\_\_ in cubic yards or tons, as appropriate.
- d. Waste Sent to Waste-To-Energy Incineration Plant (This amount should not be included in the recycled amount) = \_\_\_\_\_ in cubic yards or tons, as appropriate.

### 3.7 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources will be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. Cease all activities that may result in impact to or the destruction of these resources. Secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

### 3.8 BIOLOGICAL RESOURCES

Minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The protection of threatened and endangered animal and plant species, including their habitat, is the Contractor's responsibility in accordance with Federal, State, Regional, and local laws and regulations.



### 3.8.1 Endangered/Threatened Species

The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State, Regional, and local laws and regulations. The following are known endangered/threatened species that could possibly be in the project area.

#### 3.8.1.1 Interior Least Terns and/or Piping Plovers

No Construction shall occur within a quarter of a mile of the areas identified as nesting habitat for the Interior Least Terns and/or Piping Plovers between the dates of April 15 and August 15 of any year.

#### 3.8.1.2 Bald Eagles

The Contractor shall be responsible for identifying and avoiding disturbance to bald eagles which may be roosting in the project area. Bald Eagles. The Government recommends avoiding roosting bald eagles by eliminating activity within 75 meters of the roosting bald eagle. However, this is a general recommendation, and may change dependant upon location, available cover, and concealment. It is the Contractor's responsibility to accurately determine appropriate distances to avoid disturbing the Bald Eagle. The Contractor shall ensure that his employees are able to identify bald eagles and shall avoid disturbing bald eagles.

#### 3.8.1.3 Pallid Sturgeon

The pallid sturgeon is a federally listed endangered species that may be found within the proposed project area. The proposed maintenance and repair activities fall within the range of activities consulted on during the development of the U.S. Army Corps of Engineer's (Corps) 2017 Biological Assessment for the Operation of the Missouri River Mainstem Reservoir System, the Operation and Maintenance of the Missouri River Bank Stabilization and Navigation Project (BSNP), Operation of the Kansas River Reservoir System, and the Implementation of the Missouri River Recovery Management Plan (2017 BA), and the U.S. Fish and Wildlife Service's (USFWS) 2018 Biological Opinion for the Operation of the Missouri River Mainstem Reservoir System, the Operation and Maintenance of the BSNP, Operation of the Kansas River Reservoir System, and the Implementation of the Missouri River Recovery Management Plan (2018 BiOp). In the 2018 BiOp, the USFWS concurred with the Corps' determination in the 2017 BA that activities associated with operation, maintenance, and repair of the BSNP may affect, but are not likely to adversely affect pallid surgeon.

### 3.8.2 Migratory Bird Treaty Act

Clearing and grubbing shall be scheduled so as to avoid disturbance to any active nests of migratory birds covered by the above Act. Normally, that allows clearing only from 15 September to 31 January. However, if the CO determines that trees in the work area are free of nests, the contractor may clear such trees outside that time window. Adherence to these guidelines will help avoid any unnecessary take of migratory birds and the penalties specified in the Act and associated regulations.

## 3.9 INTEGRATED PEST MANAGEMENT

In order to minimize impacts to existing fauna and flora, the Contractor through the Contracting Officer, must coordinate with the Project



Pesticide Coordinator (PPC) at the earliest possible time prior to pesticide application. Discuss integrated pest management strategies with the PPC and receive concurrence from the PPC through the COR prior to the application of any pesticide associated with these specifications. Installation Project Office Pest Management personnel will be given the opportunity to be present at all meetings concerning treatment measures for pest or disease control and during application of the pesticide. The use and management of pesticides are regulated under 40 CFR 150 - 189.

#### 3.9.1 Pesticide Delivery and Storage

Deliver pesticides to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses. Store pesticides according to manufacturer's instructions and under lock and key when unattended.

#### 3.9.2 Qualifications

For the application of pesticides, use the services of a subcontractor whose principal business is pest control. The subcontractor must be licensed and certified in the state where the work is to be performed.

#### 3.9.3 Pesticide Handling Requirements

Formulate, treat with, and dispose of pesticides and associated containers in accordance with label directions and use the clothing and personal protective equipment specified on the labeling for use during all phases of the application. Furnish Material Safety Data Sheets (MSDS) for all pesticide products.

#### 3.9.4 Application

Apply pesticides using a State Certified Pesticide Applicator in accordance with EPA label restrictions and recommendation. The Certified Applicator must wear clothing and personal protective equipment as specified on the pesticide label. The Contracting Officer will designate locations for water used in formulating. Do not allow the equipment to overflow. Prior to application of pesticide, all equipment must be inspected for leaks, clogging, wear, or damage and repaired prior to application of pesticide.

#### 3.10 PREVIOUSLY USED EQUIPMENT

Clean all previously used construction equipment prior to bringing it onto the project site. Ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. See the attachment on Zebra Mussels for requirements relating to cleaning vessels and equipment to be submerged in the river. Consult with the USDA jurisdictional office for additional cleaning requirements.

#### 3.11 MAINTENANCE OF POLLUTION FACILITIES

Maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

#### 3.12 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel must be trained in all phases of environmental



protection and pollution control. Conduct environmental protection/pollution control meetings for all personnel prior to commencing construction activities. Additional meetings must be conducted for new personnel and when site conditions change. Include in the training and meeting agenda: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

### 3.13 POST PERFORMANCE CLEANUP

The Contractor will clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". Unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area must be graded, filled and the entire area seeded unless otherwise indicated.

-- End of Section --



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## **Specifications for Contractors Concerning Prevention of Spread of Dreissena from Infested to Uninfested Waterways**

### **Background**

Zebra mussels and quagga mussels (*Dreissena polymorpha* and *D. bugensis*) are black and white striped freshwater mussels that live attached to virtually any hard surface and clog power plants, industrial and drinking water intakes, foul boat hulls, and disrupt ecosystems. Their economic and ecological impacts are serious. Prevention of their spread when boats and other equipment are moved from a potentially infested to uninfested waterway is necessary.

The Contractor must certify that all equipment associated with the construction project that will be used within the reach of the Missouri River is free of zebra mussels (*Dreissena polymorpha*) or zebra mussel larvae prior to entering the Missouri River. If any construction equipment has been in zebra mussel infested waters, which includes but not limited to of the Great Lakes as well as the Mississippi, the Arkansas, the Ohio, the Illinois, the Tennessee, the Susquehanna and the Hudson rivers, the following checks and possible subsequent decontaminations must be completed prior to equipment entering the Missouri River.

*NOTE: Zebra mussels are known to inhabit the Missouri River, and Contractors are required to follow this standards below with their equipment to minimize further spread.*

### **Step 1. Inspection**

All waterborne vessels will be pulled out of the Missouri River at or downriver of Sioux City, Nebraska/Iowa. At the location where the boats are pulled out, thoroughly inspect hulls, drive units, trim and trolling plates, props and prop guards, transducers, anchors, ropes, and chains, trailers and any other equipment that has been kept wet.

All bilge water, live wells, engine cooling water, and any other water associated with the equipment should be drained at least one quarter mile from the river and it must be ensured that discarded water does not flow into the river.

Aquatic vegetation clinging to equipment or vessel should be removed and discarded. Any attached mussels must be scraped off and thrown in the trash. Likewise, bait and bait bucket water must be similarly discarded.

Should zebra mussels be found during this inspection, or if the vessel has been in contaminated waters, one of the following two methods must be taken to prevent their spread.



## **Step 2. Cleaning**

### **Option 1. Hot Water Rinses**

Hot Water Rinses may be used to decontaminate vessels and equipment. This acts to kill the mussels and remove them from equipment. A high-pressure, hot water (120°F) washer should be used. These rinses are required for hulls, drive units, props and guards, trim and trolling plates, anchor chains and ropes, bilge and live wells, trailers and engine cooling systems.

### **Option 2. Aerial Exposure**

Equipment and vessels must left in the open, not in the shade, for at least 5 full days (120 hours). In addition, equipment and vessels must be **completely** dry for 2 full days (48 hours) prior to re-entering the Missouri River at the project site.

## **Step 3: Documentation**

All inspection and cleanings must take place under the supervision of the contracting officer's representative (COR). The COR must be given at least two business days notice prior to inspection. Written certification that equipment is free of zebra mussel contamination shall be presented to the COR prior to mobilizing the equipment into the Missouri River. This is to include a list of checks performed, findings and decontamination activities.



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Modifications and Title Block Examples

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## SECTION 01 78 39.00 24

AS-BUILT DRAWINGS  
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## PART 1 GENERAL

Attachments: Modifications and Title Block Examples

## 1.1 DEFINITIONS

The definitions listed below form a part of this specification.

## 1.1.1 Red-Line Drawings

Contract drawings marked-up during construction to show actual work performed to include necessary sketches, modification drawings, shop drawings and notes.

## 1.1.2 As-Built Drawings

Electronic CAD Files developed from the contract drawings that include all of the information from the redline drawings and suitable for half-size reproduction.

## 1.1.3 Black-Line Drawings

Paper drawings reproduced from electronic CAD files or high quality reproducible drawings.

## 1.1.4 Full-Size Drawings

22 inches x 34 inches nominal size drawings with all details visually readable so that half-size plot will fit on 11 inches x 17 inches cut sheets.

## 1.1.5 Modification Circle

A circle with a horizontal line through the center to identify modification changes on the drawings. The top half will contain the letter "R" with the bottom half containing the Modification number, unless directed otherwise. The lettering standard will be 1/8-inch Arial.ttf.

## 1.1.6 Electronic CAD Files

Electronic CAD files in Bentley (.dgn) in accordance with appropriate CAD standard. The CAD standard will include level on/off status, special characters, line weights, font, and size requirements.

## 1.2 REFERENCES

U.S. ARMY CORPS OF ENGINEERS (USACE)

ERDC/ITL TR-19-7

(2019) A/E/C CAD Standard - Release 6.1



### 1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

100 Percent Preliminary As-Built Drawings; G-DO

SD-11 Closeout Submittals

Final As-Built Drawings; G-DO

### 1.4 GENERAL REQUIREMENTS

#### 1.4.1 As-built Drawings

Upon award of this contract, the Government will provide the Contractor PDFs of the Contract drawings. Once the Contractor makes hardcopy distribution of these drawings in accordance with Section 01 30 00.24 OTHER ADMINISTRATIVE AND SPECIAL REQUIREMENTS, the Government will provide the Contractor with Government-furnished electronic CAD Files.

Maintain electronic CAD files and Red-Line Drawings showing As-Built conditions. Use the ERDC/ITL TR-19-7 USACE A/E/C CAD Standard for the As-Built drawings. Obtain the A/E/C Standards in effect at time of Contract Award. The A/E/C Standards are available at:

<https://cadbimcenter.erdcdren.mil/>

(New users will be required to register. See "New User Registration" at the website indicated above.)

Obtain the required CAD software for Contractor use. **Do not convert electronic drawing files from one software language to another.** Show the transmittal requirements for the As-built Drawings as activities on the Contractor-prepared project schedule.

Show all changes from the contract drawings on the as-builts. Accurately and neatly record all changes on the As-built drawings using the same symbols, terminology, and general quality as the original set of contract drawings. Show all changes on all drawings that are affected by the change. Changes include: actual work performed, deviations resulting from Government responses to Requests for Information or Serial letters, surveys, shop drawings, descriptive changes, sketch changes, and modifications to the contract. Show all systems designed or enhanced by the Contractor such as HVAC control system, fire alarm system fire sprinkler system, and irrigation sprinkler system, on the As-built drawings. Where contract drawings or specifications allow for options, only show the option selected and actually constructed on the As-Built Drawings.

#### 1.4.2 Red-Line Drawings

Update Red-Line Drawings throughout the construction phase of the contract showing all changes that will be shown on the final as-builts. Place all



as-built conditions on the Red-Line Drawings **within two (2) days** after completing the work activity or it shall be entered on the deficiency tracking system (see Section 01 45 00.00 10, QUALITY CONTROL). The Government will consider the Contractor to not be making satisfactory progress and will withhold funds from progress payments if the Contractor does not completely and accurately update the as-built drawings.

Provide red-line drawings in an electronic format.

#### 1.4.2.1 Electronic Red-Lines

Make electronic red-line drawings available to the COR at all times through a Local Area Network (LAN) or Internet connection. The connection shall have a download transfer rate not less than 10 Megabit/second (~1.250 Megabytes/second) and an upload transfer rate of not less than 1 Megabit/second (~124 kilobytes/second) in order to facilitate the timely access of drawing files. Make backups of all the electronic drawings at the close of business on the final day of work each week on a durable digital media such as removable hard-drive, tape drive, or optical disk. Preserve each weekly file system backup over the course of the project and do not overwrite; label the file folders or individual media with the date of backup. Store the weekly backup media in a fireproof and waterproof safe in a locked room of the Contractor's trailer. Electronically provide the COR with updated PDF drawings on a monthly basis. Show all changes to the electronic drawings with clouding and in accordance with ERDC/ITL TR-19-7.

#### 1.5 PAYMENT

In accordance with FAR 52.232-5 "Payment Under Fixed - Price Construction Contracts", the Contracting Officer may withhold up to 10 percent of payment until the Contractor delivers to the COR and the COR accepts the Final As-Built Drawings. The amount withheld will be \$35,000 or 1 percent of the present contract value, whichever is greater, up to \$200,000.

#### 1.6 CONTRACTOR PERFORMANCE RATING

The Government will evaluate the Contractor's performance in CPARS (Contractor Performance Assessment Reporting System) at intervals of no more than 365 days during the period of performance and complete the final evaluation within 120 days of completion of the project. The timeliness and quality of As-Built drawings submittals, Final As-built Drawings, Red-line drawings will be an important factor in determining the assigned rating for the Schedule evaluation area. If the Contractor fails to submit complete and accurate Final As-Built Drawings within sixty (60) calendar days of turning the completed project over to the Using Service, this failure will be noted in the comments under the Schedule evaluation area and may result in a lower rating for this area. Repeated failure to submit correct and accurate As-Built drawings submittals, Final As-built Drawings, Red-line drawings may also result in lower ratings for the Quality and Management evaluation areas.

#### 1.7 TRANSMITTAL OF AS-BUILT DRAWINGS

##### 1.7.1 Optional As-built Drawings Sample

Optionally submit a sample of preliminary as-built drawings to the Omaha District Office that will be reviewed for formatting purposes. Include five distinct sheets from the project drawings in this submittal. Send



this optional submittal on approved digital media to the Omaha District Office (ATTN: Patricia Lambert, CENWO-CDS-C) and include the following:

- a. Electronic CAD/BIM/CIM Files
- b. Individual PDF Drawings
- c. One (1) Combined Set of full-size PDF Drawings with bookmarks for each sheet

#### 1.7.2 100 Percent Preliminary As-Built Drawings

The 100 Percent Preliminary As-Built Drawings include all changes to the drawings as specified. The 100 Percent Preliminary As-Built Drawings will be reviewed for technical content and formatting requirements. Within thirty (30) days after the final inspection, submit 100 Percent Preliminary As-Built Drawings indicating all as-built changes with "clouding" on all of the project drawings. Submit all drawings contained in the complete project set of drawings plus any additional drawings with the 100 Percent Preliminary As-Built Drawings. The COR may grant the Contractor additional time if the Contractor is making reasonable progress on the as-builts, in the sole judgment of the COR. Do not submit the Final As-Built Drawings until the 100 Percent Preliminary As-Built Drawings are approved. Include the following on the approved digital media for the 100 Percent Preliminary As-Built Drawings (ATTN: Patricia Lambert, CENWO-CDS-C):

- a. Electronic CAD Files.
- b. Individual PDF's of Drawings.
- c. Combined Set of PDF Drawings with bookmarks for each sheet.
- d. Current electronic red-lines for reviewing purposes.

#### 1.7.3 Final As-Built Drawings

Produce Final As-Built Drawings without "clouding". Include all changes shown on the 100 Percent Preliminary As-Built Drawings plus any additional required changes on the Final As-Built Drawings. Submit all drawings contained in the complete project set of drawings plus any additional drawings with the Final As-Built Drawings. Submit the Final Drawings no later than ten days after the 100 Percent Preliminary As-Built Drawing submittal is approved. The COR may grant additional time if the Contractor is making reasonable progress on the as-builts. Send the following to the COR:

Three approved digital media containing the following:

- a. Electronic CAD Files.
- b. Individual PDF's of Drawings.
- c. Combined Set of PDF Drawings with bookmarks for each sheet.
- d. Current electronic red-lines for reviewing purposes.

Send one copy of the digital media only to the Omaha District Office (ATTN: Patricia Lambert, CENWO-CDS-C).

### 1.8 AS-BUILT DRAWINGS FORMAT REQUIREMENTS

#### 1.8.1 General Formatting

Prepare As-built Drawings in accordance with ERDC/ITL TR-19-7 requirements and/or match the detail shown on the contract drawings. Include all of



the requirements below on the drawings:

- a. Update the drawing index when drawings are added.
- b. When opened, ensure the view is zoomed to fit the border.
- c. Reference a border supplied by the CAD/BIM Technology Center (<https://cadbimcenter.erdc.dren.mil/>) placed in the layout/sheet model at a scale of 1 at the location (0,0) in all files.
- d. Delete all unnecessary information outside the border.
- e. Purge/compress all files.
- f. Include all reference files and ensure they are 'Attached' (Microstation) to the CAD files in which the files are referenced.
- g. Use the Arial.ttf font for all text.
- h. Provide an ASCII text file with the following information: the name and phone number of the person we need to contact if we have problems, and the version of the CAD software used to create and/or work on the drawings.
- i. (CAD only) Supply pen tables for plotting.
- j. (CAD only) Provide each sheet/design with its own file and file name with only one layout/sheet per design file.
- k. (CAD only) Accomplish half toning by using the color 8 and setting the pen table to plot color 8 to half tone.
- l. The file name is the project code followed by the sheet identification number. Include the file name in the border on every sheet and match the name of the file on the Digital Media. The project code will be assigned per each task order.
- m. Include the File number in the border on every sheet. The file number is: (the Contract number, to be provided at award).
- n. Change the cover sheet from "Contract Award Set" to "As-Built Record Set" with month & year completed.
- o. Show drawing changes by "clouding" the affected area in layer "G-ANNO-REVS" (CAD only) in the drawing file of all preliminary as-builts and redlines. For BIM, accomplish clouding commensurate with the available tools.
- p. Place all submitted Electronic CAD Files and PDF drawings under a folder labeled "As-Built" on the submitted Digital Media.
- q. Include the name of the project, location, project code, solicitation number, contract number, and words detailing which submittal it is on both the Digital Media case and Digital Media. Title the Final As-builts Drawings "As-Built Record Set".
- r. Do not use zipped or compressed folders on any of the As-built submittals.
- s. On the cover sheet add or revise text to read "This folio includes all reissued and descriptive amendments, RFIs, and modifications."
- t. Place the Electronic CAD native design files and PDF drawings in separate folders on the Digital Media.

#### 1.8.2 Title Block

Fill in and correct all information in the title block. Include all the requirements below in the title block.

- a. Add "RECORD DRAWING" text below the title block on the right side of the drawing on all sheets.
- b. Add the date in the revision box for modifications from Block 3 of Form SF-30.
- c. State "REVISED TO SHOW AS-BUILT CONDITIONS" and date the top line of the revision box. Use a "-" for the "Mark".
- d. Enter the month and year as-builts were completed in the date box.
- f. Insert the initials "PEL" in the approved box.



- e. Show the contract number and the solicitation number (if available) on all sheets.
- f. Properly identify additional word abbreviations, not found on the abbreviation sheet but necessary to describe the work, and incorporate with the other standard word abbreviations.
- g. Properly note modifications in the title block in accordance with paragraph "Modification Changes" below.

#### 1.8.3 Modification Changes

Include all modification changes on the as-built drawings. At a minimum, include all revised and reissued sheets, descriptive changes, sketches, etc. Change other sheets as appropriate with any modification change that also affects other sheets other than the one referenced with the modification. Typically, modification changes can be done by following the descriptive change included with the modification, but may require additional effort depending on the change and level of detail of the modification change. Post modifications in accordance with the following:

- a. Follow directions in the modification for posting all changes.
- b. Post all modifications to the contract in chronological order.
- c. Show the last modification number completed on the sheet with the modification circle in the top right corner of the "Project Title" and "Project Location" box.
- d. Place a modification number in the revision box over column entitled "Mark" for all modifications to plans, sections, or details. Use the statement "GENERAL REVISIONS" when applicable.
- e. Make the Modification Circle size 1/2-inch diameter unless the area where the circle is located is crowded. Use a smaller size circle for crowded areas.
- f. Place a Modification Circle at the location of each deletion.
- g. For all new details or sections that are added to a drawing, place a Modification Circle by the detail or section title.
- h. For changes to a drawing, place a Modification Circle by the title of the affected plan, section or detail titles (each location).
- i. For changes to schedules on drawings, place a Modification Circle either by the schedule heading or by the change in the schedule.

#### 1.8.4 Legends

Do not use symbols which conflict with those on the original contract legend sheet. Properly identify and add to the legend sheet or supplemental legend additional symbols necessary to depict any additional work items. Those projects that do not have legend sheets may use supplemental legends on each sheet where symbol is shown.

#### PART 2 PRODUCTS (NOT APPLICABLE)

#### PART 3 EXECUTION

##### 3.1 GENERAL

Make revisions to and maintain the red-line and as-built drawings to the same level of detail as shown on the original contract drawings. Provide any additional drawings as required to display all details.



### 3.2 SITE WORK

#### 3.2.1 Utilities

Show all utilities whether active or abandoned on the as-built drawings and include all those shown on the original contract drawings or found on-site. Show the type of utility, location, general direction, size, material make-up and depth. Show the location and description of any utility line or other installations of any kind known to exist within the construction area. Include dimensions to permanent features as part of the location. Locate during installation all new underground utility lines (including electrical power and communications, gas, water, sanitary sewer, storm drains, roof drains and culverts). Survey pipe invert of gas, water, sanitary sewer, storm drains, roof drains and culverts and top of duct bank of electrical power and communications lines and associated fixtures (valves, manholes, test points, meters, cathodic protection points, tanks, ground points, and all point features along the new utility lines). Survey storm drains and sanitary sewer lines where pipes enter manholes and inlets and at 100-foot maximum intervals along the line. Survey the inverts of all cleanouts and tees. Survey inverts at each end of culverts. Survey electrical power, communications, gas and water lines at all manholes, tees, valves, corners, changes in direction and at intervals along the line to accurately depict the location of the line in both horizontal and vertical directions (50-foot maximum interval). Make the horizontal and vertical accuracy such that 100% of the points are + 0.25' of their absolute position. Show new underground utility lines as 3-dimensional elements in a Bentley.dgn file.

#### 3.2.2 Structures

Show structures above and below ground. Show the size, material make-up, location, height, and/or depth. Show rim elevation and invert elevations as applicable at manholes. Show electrical equipment, guy wires, and voltage rating on power poles.

#### 3.2.3 Grades

Correct grade or alignment of roads, structures, or utilities if any changes were made from the contract drawings. Correct elevations if changes were made in site grading. If any grades were finalized outside of the respective grades tolerances, show that new grade on the as-builts.

### 3.3 CONTRACTOR SHOP DRAWINGS

Incorporate contractor shop drawings, which supersede data on the contract plans and/or additional drawings, prepared by the Contractor, into the As-Built Drawings. Include the designer's name on the As-Built Drawings for any design plans prepared by the Contractor.

-- End of Section --




RECORD DRAWING

DEFINITIONS OF REVISIONS:







- 1. LAST ENTRY IN DESCRIPTION BOX SHALL APPLY TO AS-BUILT CONDITIONS
- 2. REVISIONS BY MODIFICATION. (AFTER AWARD OF CONSTRUCTION CONTRACT).
- 3. METHOD OF ADDING NEW DRAWING BY MODIFICATION.
- 4. REVISIONS BY AMENDMENT WHEN WRITTEN "WORD DESCRIPTIVE" AMENDMENT IS ISSUED AND DRAWINGS ARE POSTED FROM WRITTEN DESCRIPTIONS AFTER THE ISSUE DATE.
- 5. REVISIONS BY AMENDMENT WHEN DRAWING IS TO BE RE-ISSUED.
- 6. METHOD OF ADDING NEW DRAWING BY AMENDMENT.  
NOTE: DELTA NUMBER MATCHES AM. NUMBER


INSTRUCTIONS FOR NOTING REVISIONS:

- 1. ADD THE REVISION DESCRIPTION (EITHER CHANGE ORDER, AMENDMENT OR MODIFICATION DESCRIPTION AS APPLICABLE).
- 2. ADD THE PROPER REVISION SYMBOL TO THE LEFT OF THE REVISION NOTATION.
- 3. ADD THE PROPER AMENDMENT OR MOD. SYMBOL NEAR EACH REVISED ITEM IN THE BODY OF THE DRAWING.
- 4. ADD ARCHITECT-ENGINEERS INITIALS IN APPROVED BLOCK WHEN A-E IS RESPONSIBLE FOR AMENDMENT OR MODIFICATION.
- 5. WHEN ADDING A NEW DRAWING TO SHOW SUPPLEMENTAL DATA, USE SAME DRAWING NUMBERS AS DRAWING WITH SIMILAR SUBJECT MATTER AND ADD AN ALPHABETICAL SUFFIX TO THE SHEET NO. THIS DRAWING SHOULD BE ADDED TO THE INDEX OF DRAWINGS IN ITS PROPER PLACE ACCORDING TO THE SHEET NUMBER.
- 6. FOR MODIFICATION ONLY:  
ADD A 1/2 INCH ENCIRCLED  INSIDE OF TITLE BLOCK SHOWING THE LAST MOD NUMBER COMPLETED. ALSO USE THIS NEAR EACH REVISED ITEM IN THE BODY OF THE DRAWING.

REVISION DESCRIPTIONS - FOR AMEDMENTS AND/OR MODIFICATIONS:

- CHANGE ORDER #000X (DESCRIPTION & REASON FOR CHANGE ARE THE SAME AS AMENDMENTS LISTED BELOW)
- AM. #000X REISSUED FOR CLARITY (DRAWING IS HARD TO READ - BLURRY)
- AM. #000X GENERAL REVISIONS (THIS WOULD BE FOR ANY RE-ISSUED DRAWINGS, TYPICAL CHANGES OR CORRECTIONS)
- AM. #000X REVISED AND REDRAWN (MAJOR OVERHAUL OF THE DRAWING, TOO MANY CHANGES TO INDICATE INDIVIDUALLY)
- AM. #000X NEW DRAWING ADDED (DRAWING THAT WAS NOT ORIGINALLY INCLUDED IN THE ADVERTISED SET)
- REVISED IN ACCORDANCE WITH AM. #000X (THIS IS FOR DESCRIPTIVE CHANGES THAT WENT OUT IN THE AMENDMENT - DRAWING IS NOT RE-ISSUED - AND THE CHANGES ARE THEN LATER POSTED TO THE DRAWINGS AS IT BECOMES A CONTRACT SET)
- (DASH) REVISED TO SHOW AS-BUILT CONDITIONS

SHEET IDENTIFICATION NUMBER	PROJECT TITLE PROJECT LOCATION Y Y		U. S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS	DESIGNED BY:	DATE:		REVISED TO SHOW AS-BUILT CONDITIONS	08-14-2012											
				DWN BY:	CKD BY:		SOLICITATION NO.:	R-4	GENERAL REVISIONS	06-17-2012									
				SUBMITTED BY:			CONTRACT NO.:	R-1	NEW DRAWING ADDED	03-27-2012									
				FILE NAME:			FILE NUMBER:		REVISED IN ACCORDANCE WITH AM. NO. 0007	03-17-2012									
SIZE:		PLOT SCALE:	PLOT DATE:				AM. #0003 GENERAL REVISIONS	02-27-2012											
							AM. #0001 NEW DRAWING ADDED	02-17-2012											
							CHG. ORDER #0001 GENERAL REVISIONS	02-08-2012											
						MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.						

US ARMY CORPS  
OF ENGINEERS







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## SECTION 01 80 00

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## SECTION 01 80 00

## AS-BUILT SURVEYS

## PART 1 GENERAL

## 1.1 DESCRIPTION

This section describes the preparation of survey information in order to create surfaces for the purpose of verifying quantities specified in Measurement and Payment Section and to create final as-built survey data for comparison with design layout and elevations (coordinates), and construction.

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

## SD-01 Preconstruction Submittals

## Initial, and Stripping/Excavation Surveys; G-DO

The Contractor shall provide initial surveys prior to construction, and excavation surveys. Excavation surveys shall be surveyed after stripping and/or excavation prior to construction of, and placement of random and/or fill. These surveys shall include Borrow Areas that are part of the project. The borrow areas shall be surveyed prior to clearing, stripping and excavation; after stripping; and after excavation. The Contractor shall submit the initial and stripping/excavation surveys immediately prior to stripping, and placing fill. The Contractor shall provide ASCII text, spreadsheet, DTM, and Microstation Openroads files showing the survey data used to create the initial, and stripping/excavation surveys. The Corps of Engineers will provide an Initial-Survey file, if available, for the project, however, this may not reflect the actual conditions at the time of construction.

## SD-05 Design Data

## ASCII Text and Excel Spreadsheet files; G-DO

The Contractor shall provide ASCII text, and spreadsheet files of all surveys in addition to those used to verify quantities, and the final (As-Built) survey surface of the constructed project. All files shall be clearly labeled with a unique filename descriptive of the surface represented.

## DTM; G-DO

The Contractor shall provide DTMs of all surveys, and those surfaces used to calculate quantities. These DTMs (or surfaces) shall consist of



surveys for the following: the original ground surface(initial survey)in those areas not provided; the excavation surface after removal of topsoil (stripping), grubbing and rubble removal operations, and general excavation including excavation to flatten side slopes for preparation for fill placement; random fill surface prior to cohesive fill placement and/or topsoil placement; compacted embankment or cohesive fill surface prior to topsoil placement, and prior to surfacing; final survey surface (As-Built survey)which includes topsoil, and surfacing; and other surfaces necessary to calculate quantities in the Measurement and Payment Section.

AutoCAD files will not be allowed for submittal.

#### Microstation Openroads File; G-DO

The Contractor shall provide Microstation Openroads files of each DTM (or surface) showing the survey data used to create the DTM. The cadd files shall provide the random points, breaklines, boundary line, triangles, and contours with labels showing the point, point number, elevation, and description. All files shall be clearly labeled with a unique filename descriptive of the surface represented.

#### AutoCAD Civil3D File; G-DO

AutoCAD files will not be allowed for submittal.

#### SD-11 Closeout Submittals

##### Field Notes; G-DO

The Contractor shall furnish the originals of all field notes and all records relating to the survey or layout of work to the Contracting Officer, who shall use them as necessary to determine the amount for progress payments. The Contractor shall also provide to District Office (ATTN: CENWO-EDG-A)and retain copies of all such materials furnished to the Contracting Officer (FAR 52.236.16).

##### Initial Surveys; G-DO

The Initial Survey is a surface of the existing ground prior to construction. If available, the Corps of Engineers will provide an Initial Survey to the contract. If not available, or information not provided of initial surveys, the Contractor shall conduct an initial survey, or provide supplemental information where not adequate. The Initial Surveys shall be provided in ASCII text, spreadsheet or DTM and XML, and Microstation Openroads files showing the survey data used to create the initial survey.

##### Excavation Surveys; G-DO

Excavation surveys are: surfaces after removal of topsoil (stripping), clearing and grubbing, and rubble removal operations; surfaces after stripping, clearing and grubbing, and excavation to flatten side slopes for preparation for fill placement; or surfaces of general excavations for construction of ditches, channels, borrow areas, wetland areas. The Contractor shall provide ASCII text, spreadsheet or DTM and XML, and Microstation Openroads files showing the survey data used to create each excavation survey i.e. after stripping, grubbing, debris removal, and general excavation.



### Compacted Random Fill and Cohesive Surveys; G-DO

Compacted random fill or cohesive fill surveys are surfaces of completed compacted fill materials (cohesive, random, sand, seepage berms, etc.) constructed prior to placement of topsoil, stone protection, and/or gravel surfacing. The Contractor shall provide ASCII text, spreadsheet or DTM and XML, and Microstation Openroads files showing the survey data used to create the fill placement survey including cohesive fill, random fill, sand, etc.

### Final As-Built Survey; G-DO

The final As-Built survey of final constructed surface after placement of topsoil, gravel surfacing, pavement, sidewalks, curb & gutter, retaining walls, stone protection, etc. including the location of concrete surfaces, utilities, drainage structures, concrete inlet and outlet structures, etc. The Contractor shall provide ASCII text, spreadsheet or DTM and XML, and Microstation Openroads files showing the survey data used to create the final survey showing the survey data used to create the final As-Built surface and other survey features such as fences, pavements, stone protection, relief wells, drainage structures, utilities, etc.

## 1.3 DEFINITIONS

### 1.3.1 Professional Land Surveyor

Professional Land Surveyor: One who possesses a valid license as a "Professional Land Surveyor" and has experience surveying in the location of work.

### 1.3.2 Professional Civil Engineer

Professional Civil Engineer: One who possesses a valid state license as a "Professional Civil Engineer" from the state in which they practice. For this section, the term "surveyor" shall also include Professional Engineers authorized to practice lands surveying under the laws of the state in which they practice.

### 1.3.3 Geodetic Datum

The geodetic datum is the set of constants specifying the coordinate system used for geodetic control for calculating coordinates of points on the earth. The horizontal control datum for this project is North American Datum of 1983 (NAD83) based on a geocentric origin and the Geodetic Reference System of 1980. The vertical control datum is the North American Vertical Datum of 1988 (NAVD88).

### 1.3.4 Universal Transverse Mercator Coordinate System

The Universal Transverse Mercator (UTM) conformal projection uses a 2-dimensional Cartesian coordinate system to give locations on the surface of the Earth.

Coordinates will be presented in Universal Transverse Mercator Zone 15 with units represented in US Survey Feet for projects below Gavins Point Dam (RM 811) and Universal Transverse Mercator Zone 14 US Survey Feet for projects above Gavins Point Dam.

The plane coordinate values for a point on the earth's surface used to express the geographic position or location of the point in the appropriate zone of the coordinate system shall consist of two distances



expressed in feet and decimals of a foot. One of these distances, to be known as the "x-coordinate", shall give the position in an east-and-west direction; the other, to be known as the "y-coordinate", shall give the position in a north-and-south direction. These coordinates shall be made to depend upon and conform to plane rectangular coordinate values for the monument points of the north American horizontal geodetic control network as published by the United States national ocean survey, or the United States national geodetic survey, or a successor agency. Any monument point may be used for establishing a survey connection to the coordinate system.

#### 1.3.5 Benchmark

Bench mark is a relatively permanent material object, natural or artificial, bearing a marked point whose elevation above or below and adopted datum is known.

#### 1.3.6 Control Point

Control point is a relatively permanent material object, natural or artificial, bearing a marked point whose coordinates are based upon the adopted coordinate system, projection and datum. These points are usually marked on a brass cap set in concrete or a brass cap set on rebar.

#### 1.3.7 Contour

A contour is an imaginary line on the ground, all points of which are of the same elevation above or below a specified datum.

#### 1.3.8 Utilities

Utilities are services provided by governmental and private entities that provide the following: electric power, telephone, water, sanitary and storm sewer, gas, fiber optic, steam, communications, irrigation, etc.

### PART 2 PRODUCTS

#### 2.1 Survey Data

Survey data consists of coordinates of land features represented by breaklines, and random points.

##### 2.1.1 Breaklines

Breaklines are a series of points with x,y,z coordinates that are connected to one another by linear segments. These segments are represented by 3D linestrings, lines, and shapes in Microstation Openroads or polylines, lines or shapes in AutoCAD. Two or more points are required to define a breakline. Breaklines represent discontinuities in the ground surface being surveyed such as an abrupt change in slope (levee toe or crest edge), ridges, ditches, edge of pavement, back of curb, curb flow lines, toe of levee, left and right levee crest edges, top edges of walls (floodwalls, retaining walls and headwalls), and front and back of wall where earth and concrete meet. Breaklines can also represent the limits of riprap, gravel surfacing, edges of pavement, and edges of concrete such as slabs and manholes, etc. When triangulating a surface that contains breakline data, triangles are formed so that no triangle side crosses a breakline segment. The breakline holds a linear relationship that might otherwise be removed during triangulation. Breaklines should not cross one another unless they have a crossing point with the same x,y and z



(coordinate).

#### 2.1.2 Random Points

Random points represent randomly occurring points with x,y,z coordinates. Random points are collected because they are points that generally define the surface and can be uniformly or non-uniformly spaced. Random points are referred to as regular points, spots elevation or ground shots. Random points are also surveyed at high and low spots in the topography.

#### 2.1.3 Coordinates

Coordinates represent the position of a survey point in three dimensions on the surface of the earth according to the specified coordinate system (Nebraska State Plane Coordinate System), and horizontal and vertical control datum's; Easting (x), Northing (y) and elevation (z).

#### 2.2 Digital Terrain Model (DTM)

A digital terrain model contains all of the triangulated information that defines a surface. A DTM file contains the digital terrain model data and the triangle network which is created when the model data is triangulated. Each triangle consists of pointers to its vertices and also to the three neighboring triangles. The digital terrain model data consists of boundary lines, breaklines and random points. Linear feature information is also stored in the file that represents features such as breaklines.

#### 2.3 TIN

Submittal of Triangulated Irregular Network (TIN) models files will not be allowed.

#### 2.4 ASCII Text and Excel Spreadsheet

The ASCII text file and spreadsheet consists of survey data representing the topography within the constructed project, extending to the full project limits for each DTM (or surface). The survey data at a minimum shall identify the following: (1) Point No.; (2) XYZ coordinates (Easting (x), Northing (y), and Elevation (z)); (3) Description; and (4) Pen Code.

#### 2.5 As-Built Survey

The As-Built survey shall represent the final survey of the topography of the constructed project and constructed features within the project area. The final As-Built survey shall show the location of the survey data (random points, breaklines, elevation text, etc.), 1 ft contours, major contour label (5ft interval), and survey boundary limits from the final As-Built survey DTM. The final As-Built survey shall show the location in 3D coordinates of fence lines, gates, utilities, drainage structure, concrete surfaces, pavements, curb & gutter, gravel surfacing, stone protection, wells, relief wells, piezometers, inlet and outlet structures, retaining walls, floodwalls, manholes, area inlets, trees, waters edge, buildings, etc. The Contractor shall submit 1":50' scale 34"x22" (ANSI D) drawings in electronic cadd (MicroStation) and pdf format to the COR that shows topographic mapping of the final As-Built survey (DTM file) and the original design half-toned underneath for comparison.



## 2.6 Quantities

Quantities of each Measurement and Payment item shall be determined from digital terrain models (DTMs). Volume calculations shall be based upon the triangle volume method. At least two DTMs are necessary to calculate a quantity; the initial and final survey. Calculation results shall be submitted to the COR. This volume shall be used for payment at the Contract price. In addition, the contractor shall submit 34"x22" (ANSI Size D) drawings in electronic cadd and pdf format representing topographic maps on the same drawing of the initial and final surveys (DTMs) for visual comparison of results to the COR for each Measure and Payment item. The drawings shall show the survey data (random points, breaklines, elevation text, etc), contours, major contour label, and survey boundary limits for each DTM. The initial survey information shall be half-toned for clarity.

## PART 3 EXECUTION

### 3.1 Survey Data

The survey data collected shall be based in the UTM Zone 15N (NAD 83) for the horizontal control datum and the National American Vertical Datum of 1988 (NAVD 88) for the vertical control datum in U.S. Survey Feet. Random and breakline points shall be surveyed at intervals to meet map accuracy standards to create a 1"=50' map and 1' contour interval or 30 feet minimum. Additional points shall be surveyed to represent curves.

The surveyor or engineer shall create two DTMs (or surfaces) to determine the quantity requested for each measurement and payment item. In addition, the surveyor or engineer shall submit a final (As-Built) survey of the constructed project and features within the project limits including any features and utilities in the constructed area.

The Contractor shall survey the following for the final (As-Built) survey: location of top edges of barrier walls, retaining walls, floodwalls, and headwalls; location of edges of concrete sidewalks, ramps, back top of curbs, flowline of gutters and other pavements edges; locations of inlet, outlet and change in direction of all drainage structures, and drain pipes (including drainage system behind walls); location of area inlets and manholes including the RIM and invert elevations of manholes; location of utilities including top and bottom of light pedestals, fire hydrants and power poles; location of levee crest edges, toe, centerline, and intersection with riverside channel; and one or two spots mid slope for slopes greater than 15 feet within the project limits.

### 3.2 Initial Surveys

The Initial survey shall be accumulation of information showing the existing conditions in the field prior to construction, a topographic map. The Initial survey shall consist of a Microstation Openroads containing the breaklines (edges of the levee crest, levee centerline, a approximate location of edge of compacted fill and 15' beyond construction and/or levee toe), spot elevations, random points, utilities, various piping systems, headwalls, streets, sidewalks, riprap limits, gravel surfacing limits, asphalt and concrete pavements, fence, etc. within the constructed area and 15 feet beyond. Each survey point shall be labeled with a point number, description, and elevation at a minimum. The information in the Microstation Openroads file shall also be in the DTM. The contours in the Microstation Openroads file shall be generated from the



information contained in the DTM. The ASCII text file and spreadsheet shall consist of information in the DTM such as breaklines, random points, etc. with the point number, Northing, Easting, elevation, description, pen number, etc., at a minimum. This survey should be performed after Notice To Proceed and submitted prior to construction of the fills in order to determine elevation to restore the levee to. An initial survey shall be provided nearly all areas of work. The Contractor shall conduct and provide surveys in those areas not provided.

### 3.3 Stripping and Excavation Surveys

The stripping/excavation surveys shall be accumulation of information showing the stripping and/or excavation prior to placing compacted random fill, compacted cohesive fill, seepage berms compacted previous fill, compacted toe trench previous fill, etc, a topographic map. These surveys shall be used for calculating quantities after the stripping /excavation surveys were completed. The the stripping/excavation surveys shall consist of a Microstation Openroads file containing the breaklines (edges of stripping, edges of excavation, edges of the ramp or levee crest after stripping, ramp or levee centerline after stripping, levee toe/berm edge after stripping, berm top after stripping, berm toe after stripping and 15' beyond construction and/or berm or levee toe or ramp toe), spot elevations, random points, utilities, various piping systems, headwalls, streets, sidewalks, riprap limits, gravel surfacing limits, asphalt and concrete pavements, fence, etc. within the constructed area and 15 feet beyond. Each survey point shall be labeled with a point number, description, and elevation at a minimum. The information in the Microtation Openroads shall also be in the DTM. The contours in the Micrstation Openroads file shall be generated from the information contained in the DTM. The ASCII text file and spreadsheet shall consist of information in the DTM such as breaklines, random points, etc. with the point number, Northing, Easting, elevation, description, pen number, etc., at a minimum.

### 3.4 Compacted Random Fill, Cohesive Fill, and Topsoil Surveys

The compacted random fill and compacted cohesive fill surveys shall be accumulation of information showing the as constructed conditions of the compacted random fill and compacted cohesive fill prior to placing topsoil, a topographic map. These surveys shall be used to verify that the compacted random fill and compacted cohesive fills were constructed to the elevations, lines and grades shown on the plans and for calculating quantities after the stripping /excavation surveys were completed. The the compacted random fill and compacted cohesive fill surveys shall consist of a Microstation Openroads file containing the breaklines , spot elevations, random points, utilities, various piping systems, headwalls, streets, sidewalks, riprap limits, gravel surfacing limits, asphalt and concrete pavements, fence, etc. within the project limits. Each survey point shall be labeled with a point number, description, and elevation at a minimum. The information in the Microtation Openroads shall also be in the DTM. The contours in the Micrstation Openroads file shall be generated from the information contained in the DTM. The ASCII text file and spreadsheet shall consist of information in the DTM such as breaklines, random points, etc. with the point number, Northing, Easting, elevation, description, pen number, etc., at a minimum.

### 3.5 Final As-Built Survey

The As-Built survey shall be accumulation of information showing the as



constructed conditions in the field, a topographic map. The As-Built survey shall consist of a Microstation Openroads file containing the breaklines, spot elevations, random points, utilities, various piping systems, headwalls, streets, sidewalks, riprap limits, gravel surfacing limits, asphalt and concrete pavements, fence, etc. within the project limits. Each survey point shall be labeled with a point number, description, and elevation at a minimum. The information in the Microstation Openroads shall also be in the DTM. The contours in the Microstation Openroads file shall be generated from the information contained in the DTM. The ASCII text file and spreadsheet shall consist of information in the DTM such as breaklines, random points, etc. with the point number, Northing, Easting, elevation, description, pen number, etc., at a minimum.

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