



US Army Corps
Of Engineers
Nashville District

Solicitation No. W912P526RA008

Environmental Infrastructure MATOC - Weaverville Waterline Replacement Phase 1

**Weaverville, North Carolina
Tennessee River Basin**

**Design-Build Specifications -
Request for Proposal (RFP)
Ready to Advertise (RTA)**

August 2026

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FOR DUPLEX PRINTING

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SECTION 01 00 00

GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 GENERAL SCOPE OF WORK

This project is a task order issued under a Multiple Award Task Order Contract (MATOC) which serves as an Indefinite Delivery/Indefinite Quantity (IDIQ) vehicle for civil works construction services in support of municipal and federal agencies within the USACE Nashville District's geographical boundaries, specifically Western North Carolina and Tennessee. The work executed under this MATOC consists of Design-Build and Design-Bid-Build projects to construct or improve municipal water, storm sewer, and sanitary sewer systems. This specific task order defines a complete Design-Build construction project for the Town of Weaverville.

This section comprises an explanation of the general contract requirements needed to accomplish the work for this task order. All work specified herein must be accomplished in accordance with the procedures prescribed in these RFP specifications and the final Government-accepted Design-Build drawings.

1.2 TASK ORDER SPECIFICATIONS

The MATOC Base Contract does not include specifications; all requirements will be defined exclusively at the task order level. Furthermore, specifications, performance criteria, and requirements issued for one specific task order are applicable only to that task order and shall not apply to or govern any other task order executed under this MATOC.

For this specific Design-Build task order, the Government has issued performance criteria and baseline requirements within this Request for Proposal (RFP). The Contractor shall develop the final, detailed technical specifications for construction based on these RFP requirements and applicable State of North Carolina Department of Environmental Quality (NCDEQ) standards, subject to Government acceptance.

1.3 LOCATION AND ACCESS

1.3.1 Location

This task order is for work in Weaverville, North Carolina.

Exact locations of the work are conceptually detailed in RFP drawings and shall be finalized by the Contractor's design. Final work limits will be identified onsite by the Contracting Officer.

1.4 COORDINATION CONFERENCES

Routine coordination conferences will be scheduled by the Contracting Officer throughout the life of this project. Coordination conferences will be held to discuss contract administration, Contractor quality control,

design development, phasing, scheduling, and other aspects relating to this Design-Build construction project. The Corps of Engineers and the Contractor will be represented at each of these meetings. Coordination conferences will be scheduled to occur when notified by the Contracting Officer. Anticipated conferences include, but are not limited to:

1.4.1 Post-Award Conference

After Award of the contract but prior to issuance of the Notice to Proceed (NTP) or commencement of any design or construction work, the Contractor shall meet with the Contracting Officer at a Post-Award Conference. See Specification Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD), subpart "Post Award Conference" for additional detail.

1.4.2 Quality Control Mutual Understanding Meeting

After the Post-Award Conference, before start of design or construction, and prior to acceptance by the Government of the Contractor Quality Control (CQC) Plan and Design Quality Control (DQC) Plan, meet with the Contracting Officer and discuss the Contractor's quality control system. See Specification Section 01 45 00 QUALITY CONTROL, subpart "Coordination and Mutual Understanding Meeting" for additional detail.

1.4.3 Environmental Mutual Understanding Meeting

After the Post-Award Conference, before start of any field activities or construction, and prior to acceptance by the Government of the Environmental Protection Plan (EPP), meet with the Contracting Officer and discuss the details of the Contractor's environmental protection. Submit the Environmental Protection Plan prior to the Environmental Mutual Understanding Meeting. During the meeting, a mutual understanding relative to the details of environmental protection, including measures for protecting natural and cultural resources, required reports, required permits, permit requirements (such as mitigation measures), and other measures to be taken. 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 may be occasions when subsequent meetings will be called by either party to reconfirm mutual understandings or address deficiencies in the EPP system or procedures which may require corrective action by the Contractor. Reference 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS for additional details.

1.4.4 Safety Mutual Understanding Meeting

After the Post-Award Conference, before start of any field activities or construction, and prior to acceptance by the Government of the Accident Prevention Plan (APP), meet with the Contracting Officer and discuss the Contractor's safety program. Submit the APP prior to the Mutual Understanding Meeting. During the meeting, a mutual understanding of the safety program details must be developed, including incorporated plans, programs, program management, anticipated AHAs that will be developed and implemented during the performance, additional safety meeting requirements, PPE, mishap reporting, and additional contract requirements considered unique. 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 may be occasions when subsequent meetings will be called by either party to reconfirm mutual understandings or address deficiencies in the safety program or procedures which can require corrective action by the Contractor. Reference 01 35 26 GOVERNMENTAL

SAFETY REQUIREMENTS for additional details.

1.4.5 Schedule Expectations Kickoff Meeting

Attend a kickoff meeting with the Government. This meeting will cover the schedule specification requirements to ensure correct development of schedule submittals by the Contractor. The Government intends to conduct the SEKO within 7 days after issuing NTP. The Contracting Officer may provide the contractor with schedule (P6) layouts, templates, and settings to help the contractor develop an acceptable schedule. Reference 01 32 01.00 10 PROJECT SCHEDULE for additional details.

1.4.6 Weekly Progress Meeting

After receiving notice-to-proceed, the Contractor shall establish a schedule for weekly progress meetings. The purpose of the weekly progress meeting is for the Contractor to: 1) Communicate information relevant to the current status of the project's progress; 2) Communicate risks which may impact near term progress; 3) Identify upcoming activities and necessary actions which precede those activities; 4) Relay relevant personnel information; Go over status of pending modifications, pay requests, RFI's, submittals, deficiencies, and other administrative matters. This list is not all inclusive and should be expanded as deemed appropriate by the Contracting Officer and the Contractor.

The Contractor shall host the weekly progress meeting on the same day of the week for the duration of the project. The day of the week and time of the meeting shall be approved by the Contracting Officer. The meeting shall be held on-site in a location that provides adequate seating for the Contractor's attendees and the Government's attendees and also be made available for remote attendance via a virtual format (Microsoft Teams, etc.).

The Contractor is responsible for preparing the agenda for the weekly progress meeting. The agenda must be updated as the project progresses so that it remains relevant to the status of the project. The Contractor shall provide the agenda to the Contracting Officer on a weekly basis at least 4 hours prior to the start of the meeting.

The Contractor is responsible for recording meeting minutes at every weekly progress meeting. The meeting minutes shall be provided via email to the Government for review no more than 24 hours after completion of the meeting. The Government may respond with corrections to the meeting minutes, and the Contractor shall provide a final copy no more than 24 hours after receiving Government comments or concurrence. Final meeting minutes will be attached to the QC daily report corresponding to the day the meeting takes place.

1.4.7 Red Zone Meeting

Meet with the Government to identify strategies to ensure the project is carried to expeditious closeout and turnover to the Town of Weaverville. Start planning the closeout process at the Post-Award Conference meeting with a discussion of the Red Zone process and convene at regularly scheduled Red Zone Meetings beginning at approximately 75 percent of project completion.

1.5 PARTNERING

In order to most effectively accomplish this contract, the Government urges the contractor to join the Government in establishing a cohesive and professional project management team. Through this "partnering" relationship both entities would strive to draw on the strengths of each organization for the ultimate goal of assuring that the project's intended results of finishing on time and within budget are achieved utilizing a risk management approach. This endeavor seeks an environment that nurtures team building, cooperation, and trust between the Government and the Contractor. The partnering relationship would be bilateral in make-up, and participation will be totally voluntary.

1.6 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)

ECB 2020-1	(2020) USACE Construction Project Signs and Use of the Army Star
EM 385-1-1	(2024) Safety -- Safety and Occupational Health (SOH) Requirements
EP 310-1-6a	(2006) Sign Standards Manual, VOL 1
EP 310-1-6b	(2006) Sign Standards Manual, VOL 2, Appendices

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. The following must be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Work Plan; G

1.8 PROJECT SIGNS

1.8.1 General

Furnish and erect, within 15 days after issuance of the release for construction, a PROJECT IDENTIFICATION SIGN and a SAFETY PERFORMANCE SIGN at the location directed by the Contracting Officer. Letter signs on one side only and conform to EP 310-1-6a (Section 16), EP 310-1-6b, ECB 2020-1, and to the details and colors shown on the sketches attached at the end of Section 01 95 00 FORMS AND ATTACHMENTS. Name the project as follows:

Weaverville Waterline Replacement Phase 1

1.8.2 Materials

Construct the sign with a face sheet of 3/4 inch exterior grade plywood mounted on a substantial framework of treated 4-inch by 4-inch material. Screws must be commercial quality and of sizes shown.

1.8.3 Painting

Apply one prime coat and two finish coats of exterior oil paint to signs and post before lettering. Apply letters and trim to one side only using one coat of enamel of color, style, and size shown.

1.8.4 Erection and Maintenance

Erect signs at the locations designated by the Contracting Officer. Signs must be plumb and backfill of post holes must be well tamped to properly support the signs throughout the life of the contract. Maintain signs in good condition until completion of the contract. Remove signs from the site upon final acceptance of the contract work.

1.9 WORKING HOURS

Normal working hours are Monday through Friday 7:00 AM to 3:30 PM local time. Work must be scheduled around federal holidays. Special considerations may require work outside of these core work hours. Any exceptions must be approved by the Contracting Officer. Submit requests to change work hours at least 14 calendar days in advance of need.

1.9.1 Federal Holidays

Do not schedule work on Federal holidays.

Refer to OPM Website for Federal holidays listed by calendar year:
<https://www.opm.gov/policy-data-oversight/pay-leave/federal-holidays>.

1.10 PRE-SCREENING CONTRACTOR'S ON-SITE EMPLOYEES USING E-VERIFY

Contractors must comply with the requirements set forth in RFO clause 52.222-54 Employment Eligibility Verification and RFO Subpart 22.18 in using the E-Verify Program at (<https://www.e-verify.gov/>) (website subject to change) to meet the contract employment eligibility requirements. Contractors are encouraged to cooperate with Federal and State agencies responsible for enforcing labor requirements to include eligibility for employment under United States immigration laws. An initial list of verified/eligible candidates must be provided to the Contract Officer no later than three business days after the initial contract award. When contracts are with individuals, the individuals will be required to complete a Form I-9, Employment Eligibility Verification, and submit it to the Contracting Officer to become part of the official contract file.

1.11 PERMITS AND LICENSES

The Contractor must, at his/her own expense, obtain any licenses, permits or bonding required to perform the contract. The Contractor must comply with current federal, state, and local laws and regulations and must comply with any subsequent changes.

1.12 SAFETY REQUIREMENTS

The Contractor must comply with all applicable provisions of EM 385-1-1 Safety and Health Requirements Manual and Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

1.13 NON-COMPLIANCE OF SAFETY AND SECURITY REQUIREMENTS

If the Contractor fails or refuses to promptly comply with the safety and security requirements, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. Time lost due to any such stoppage is not subject to claim for extension of time or for excess costs or damages to the Contractor. The Contractor will not be paid for work not performed as a result of the stop order. Work must not resume until the Contractor provides evidence to the Contracting Officer that he/she has complied or will comply with appropriate safety and security regulations.

1.14 PROTECTION OF EXISTING WORK AND DAMAGE REPORTS

In all instances when Government property and/or equipment is damaged by the Contractor's employees or any contract employees, the Contractor must immediately suspend all work, and notify the Contracting Officer. A full written report of the incident including the extent of damage must be submitted to the Contracting Officer for evaluation within two business days of occurrence. The Contractor must wait for a Notification to Proceed from the Contracting Officer before resuming any work activities.

1.15 CONTRACTOR'S STAGING AREA

The Contractor will be assigned an area within or near the project site for use as a staging area. The building of structures, the erection of tents or other forms of protection will be permitted only at such places as the Government shall approve, and the sanitary conditions of the grounds in or about such structures must at all times be maintained in a satisfactory manner. Temporary Contractor facilities provided during Construction must be removed prior to final acceptance from the Government. As a minimum the area must be left looking "broom clean" and at least as clean as before the structure placement.

1.15.1 Storage of Equipment and Materials

Storage of equipment and materials will be permitted only in designated staging areas.

1.16 DAILY CLEANUP AND DISPOSAL

Work areas must be kept reasonably neat on a daily basis. Debris resulting from the work, such as empty paint cans, packing cases, scrap lumber, oil and grease spills, and other debris must be collected, removed, and disposed of off-site at least once per week. Government trash cans, dump boxes and other containers shall not be used. Liquid waste must not be disposed of in existing drains.

1.17 PROTECTION AND RESTORATION OF EXISTING FACILITIES

Existing facilities must be protected whether or not shown on the drawings. Upon completion of the work, existing facilities, not included as a portion of the work, shall be left in a condition equal to the

original condition prior to the contract. Costs for repair and restoration of any facilities must be considered to be incidental to and included in the contract price.

1.18 REQUIRED SEQUENCING AND NOTICE TO PROCEED

All work under this task order shall be authorized via a single Notice to Proceed (NTP) process. The total Period of Performance for this task order is specified in the contract award and governs the completion of all work described herein.

This contract is subject to the clauses referenced in Section 00 70 00, Conditions of the Contract, including but not limited to RFO 52.211-12, Liquidated Damages—Construction.

1.18.1 Notice to Proceed

Upon issuance, the NTP authorizes the Contractor to commence all activities necessary to develop, submit, and secure Government acceptance of the project design. This includes, but is not limited to, design development, engineering analysis, preparation of construction documents, field investigations, and all associated submittals as required by this contract. However, no physical construction shall commence until the Government issues a formal Release for Construction (RFC).

Final, written acceptance of the design by the Contracting Officer is a mandatory prerequisite for the issuance of the RFC..

Failure by the Contractor to complete all required design activities and secure final Government design acceptance within the time specified for this phase in the project schedule may be cause for termination for default in accordance with RFO 52.249-10, Default (Fixed-Price Construction).

1.18.2 Release for Construction (RFC)

The RFC authorizes the Contractor to commence and complete all physical construction, fabrication, demolition, and installation work in accordance with the Government-accepted design.

The Government shall not issue the RFC until the Contractor has received final, written acceptance of the project design from the Contracting Officer.

The Government reserves the unilateral right to not issue the RFC. In such an event, the Government may terminate this contract for its convenience in accordance with RFO 52.249-2, Termination for Convenience of the Government (Fixed-Price). A decision to not issue the RFC may be made if, in the Government's sole discretion, the project is unable to secure required permits or if the final design is not accepted.

As defined in Specification Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD), subpart ACCEPTANCE AND RELEASE FOR CONSTRUCTION, after acceptance of the design package by the Government, the Contractor will republish and submit the accepted design as an "Issued for Construction" (IFC) package which will serve as the official construction drawings and specifications.

1.18.3 Contractor Work Plan

After RFC but prior to construction, submit a work plan to the Government for approval detailing the Contractor's intended means and methods for accomplishing the work. The work plan must include, but may not be limited to, construction methods, materials and equipment that will be used, disinfection procedures, water service shutoff procedures, phased shutoff plan and other construction phasing, and construction duration. Also provide any additional information that will most clearly communicate the plan and procedure for construction. Government approval of this submittal does not represent an acceptance of any risk associated with the means and methods detailed in the plan; the Contractor retains full responsibility for choosing means and methods that will accomplish the work and adhere to Federal, State, and local regulations and restrictions.

1.19 EVALUATION OF CONTRACTOR PERFORMANCE

The Contractor's performance will be evaluated in accordance with RFO Part 42.11 in the areas of quality, schedule, cost control, management, utilization of small businesses, and regulatory compliance at minimum. The evaluation will include a written narrative and rating of either exceptional, very good, satisfactory, marginal, or unsatisfactory for each. The format for the evaluation is attached at the end of Section 01 95 00 FORMS AND ATTACHMENTS.

The Contractor's review of the evaluation shall be completed electronically at the CPARS, <http://www.cpars.gov>. This website also includes guidance and the user's manual.

Upon contract award, the Contractor shall provide the Contracting Officer with the name and e-mail address of the Contractor's Representative to be registered into the system. Following initial completion by the Government, the Contractor will have sixty (60) calendar days to review, comment, and return the evaluation.

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

In addition to complying with the requirements outlined in RFO Part 22.13, RFO Clause 52.222-35, RFO 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:

- a. Veterans' Employment and Training Service (VETS):
<http://www.dol.gov/vets/>
- b. Federal Veteran Employment Information: www.fedshirevets.gov
- c. Veterans Opportunity to Work (VOW) Program: <http://benefits.va.gov/vow/>
- d. Hiring Our Heroes: www.uschamberfoundation.org/hiring-our-heroes

1.21 MEASUREMENT AND PAYMENT

No separate payment will be made for the work covered under this section. The costs thereof shall be included in the item to which the work pertains. Payment for the work required under this contract will be made as listed in the bidding schedule and as described in Section 01 20 00 PRICE AND PAYMENT PROCEDURES.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 TASK ORDER SCOPE OF WORK

Design and construct the following projects to meet the Government's performance objectives. The design must integrate with the existing system, and all design submittals are subject to Government review and acceptance in accordance with USACE regulations before construction may begin.

1.1.1 Area of Water Main Replacement

Design and construct the replacement of existing 4-inch cast iron water mains in the Town of Weaverville, North Carolina, along Church Street with Contract Options for North College Street. The primary objective is to improve system capacity, increase reliability, and ensure compliance with current fire codes through the installation of new mains, fire hydrants, valves, and all associated appurtenances. Replace the full extents of 4-inch mains within the specified segments, including existing fire hydrants off of the existing 4-inch line, as identified in preliminary planning documents. Project scope may include replacement of existing 6-inch lines if such lines are between segments of 4-inch line that are being replaced. All work must be conducted within the Town's right-of-way the project boundaries denoted in the contract drawings.

1.1.2 Water Main Replacement

Replacement of the existing main includes, but may not be limited to, the following:

- a. Determine exact locations of existing utilities within the right-of-way and within 10 feet of the new water main alignment
- b. Design of the replacement pipe including tie-in locations and configurations, exact pipe alignment, fittings and valve types and locations, commercial and domestic service line corporation stop locations and service line routing between the corporation stop at the new main and the existing water meter, and fire hydrant locations for existing hydrants to replace and for new hydrants
- c. Provide new 8-inch ductile iron pipe and all appurtenances, thrust blocks, and restraints
- d. All testing, flushing, disinfection, and verification of new lines, valves, and hydrants
- e. Abandon in-place existing 4-inch water mains that are not removed to accommodate new tie-ins
- f. Backfill, compaction, and repavement

Design work includes all associated reviews, both those internal to the

Contractor and those with the Government. Design work also includes, but is not limited to, permitting activities, meetings and conferences, site visits and site investigations, and environmental analyses. Though existing hazardous materials are not expected at the site, as stated in Specification Section 01 57 19, subpart "Hazardous Waste/Debris Management," the Contractor is responsible for performing an Environmental Site Assessment (ESA) to evaluate the area for the presence of hazardous, toxic, or radioactive waste (HTRW).

1.1.3 Pre-design and Construction Survey

Survey requirements pre-design are primarily based on the need to identify existing utility locations and elevations, to establish the existing grade for utility surface cover requirements, and to provide a basis for reestablishing grades once the construction is completed. Survey required during and after construction are intended to capture the final horizontal and vertical locations of the new utility and all crossing utilities to ensure separation and clearance requirements are met and to clearly document as-constructed conditions for official record purposes.

1.1.4 Abandonment of Existing Pipes

Existing pipes that are abandoned in place must be filled with a concrete slurry or otherwise sealed according to State and local regulations. At locations where abandoned segments of pipe connect to the remaining water distribution system, create a physical separation between the abandoned pipe or valve and the existing pipe that will remain. Maximize the integrity of the system to the greatest extent practical and minimize vulnerabilities and modes of failure.

1.2 LOCATION OF UNDERGROUND UTILITIES

Obtain digging permits prior to start of excavation, and comply with local requirements for locating and marking underground utilities. Contact local utility locating service a minimum of 10 business days prior to excavating, to mark utilities, and within sufficient time required if work occurs on a Monday or after a Holiday. Verify existing utility locations indicated on Contract drawings, within area of work.

Identify and mark all other utilities not managed and located by the local utility companies. Scan the construction site with dual frequency Ground Penetrating Radar (GPR), electromagnetic, or sonic equipment, and mark the surface of the ground or paved surface where existing underground utilities are discovered. Verify the elevations of existing piping, utilities, and any type of underground or encased obstruction not indicated, or specified to be removed, that is indicated or discovered during scanning, in locations to be traversed by piping, ducts, and other work to be conducted or installed. Verify elevations before installing new work closer than nearest manhole or other structure at which an adjustment in grade can be made.

1.2.1 Notification Prior to Excavation

Notify the Contracting Officer at least 15 days prior to starting excavation work.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

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1.1.4.1 Payment

1.1.4.2 Unit of Measure

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Street and Oakwood Drive

1.1.5.1 Payment

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1.1.6 Construction Option - North College Street between Oakwood
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SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SINGLE JOB PAYMENT ITEMS

Payment items for the work of this Contract for which Contract job payments will be made are listed in the PROPOSAL SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular job or unit price payment item, are included in the listed job item most closely associated with the work involved. The job price and payment made for each item listed constitutes full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

1.1.1 Contractor Design Services

1.1.1.1 Payment

Payment will be made for costs associated with the Contractor Architect-Engineer (A-E) design services which include, but may not be limited to, Civil, Geotechnical, and Environmental design services to fully produce complete design documents for the scope of work as indicated in Section 01 11 00 SUMMARY OF WORK. Payment shall also include site visits, design conferences, design quality control, design reviews, research, design submittals, specifications, CAD files, and other items as indicated. The Contractor shall bear all costs associated with the ITR and must fully incorporate the review into its overall design process.

The first 80 percent of the price for this payment item will be rendered in progress installments upon submission, review, and Government concurrence of each pre-final design stage package submittal required by the RFP (i.e., Interim Design(s), and Final Design). Each package submission shall occur at the completion of the associated design development stage as required by the RFP. The Contractor shall include cost-loaded activities in its progress schedule required by section 01 32 01.00 10 PROJECT SCHEDULE distributing the first 80 percent of this pay item across each of the design development phases considered (i.e. Interim Design(s), and Final Design). Activity cost-loading shall reflect the level of design effort required to complete each deliverable/design stage.

The remaining 20 percent of the price for this payment item will be paid upon submission, review, and Government acceptance of the final Issued for Construction (IFC) Design Package. The Contractor shall include a unique cost-loaded activity in its progress schedule for this final design submission and associated payment.

1.1.1.2 Unit of Measure

Unit of measure: Job.

1.1.2 Performance and Payment Bonds

1.1.2.1 Payment

Payment will be made for Performance and Payment Bonds that are required as part of this contract in accordance with Contract Clause 52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS. Payment for the premiums for performance and payment bonds will be made at the contract price per Job for "Performance and Payment Bonds". The Government will pay the actual cost of acceptable performance and payment bonds or the Contractor's bid price, whichever is less. Payments made under this provision shall not exceed the amount included for "Performance and Payment Bonds", which payment shall take into consideration any discounts or rebates to the Contractor from the Surety. The Contractor is advised that the pay item "Performance and Payment Bonds" is only for the cost of bonds. Other costs should be allocated to the appropriate payment items. The Contractor shall provide evidence of payment (paid invoice) from the bonding company or agency. If the actual cost of the bonds is less than the payment item amount, the contract will be modified to adjust the payment item accordingly.

1.1.2.2 Unit of Measure

Unit of measure: JOB.

1.1.3 Mobilization and Demobilization

1.1.3.1 Payment

Payment will be made for costs associated with mobilization and demobilization, as defined in Special Contract Clause PAYMENT FOR MOBILIZATION AND DEMOBILIZATION.

1.1.3.2 Unit of Measure

Unit of measure: Job.

1.1.4 Construction - Church Street

1.1.4.1 Payment

Full payment for this CLIN will be made for all labor, plant, and material for construction of all features of work as identified in Section 01 11 00 SUMMARY OF WORK within the Church Street Right-of-Way and as prescribed in the Contractor-designed and Government-accepted construction specifications and drawings. This includes, but is not limited to, all work associated with the installation of potable water mains, replacement and addition of fire hydrants, integration of valves, fittings, and necessary appurtenances, domestic and commercial service line reconnections, abandonment or removal of existing water infrastructure, and full site restoration required to meet the project performance criteria. This item also includes all design efforts during construction including, but not limited to, submittal reviews, site visits, periodic as-built updates, and record drawing preparation. Progress payments for this item will be made in accordance with the Government-approved cost-loaded project schedule.

1.1.4.2 Unit of Measure

Unit of measure: Job.

1.1.5 Construction Option - North College Street between Church Street and Oakwood Drive

1.1.5.1 Payment

Full payment for this CLIN will be made for all labor, plant, and material for construction of all features of work as identified in Section 01 11 00 SUMMARY OF WORK within the North College Street Right-of-Way, between Church Street and Oakwood Drive, and as prescribed in the Contractor-designed and Government-accepted construction specifications and drawings. This includes, but is not limited to, all work associated with the installation of potable water mains, replacement and addition of fire hydrants, integration of valves, fittings, and necessary appurtenances, domestic and commercial service line reconnections, abandonment or removal of existing water infrastructure, and full site restoration required to meet the project performance criteria. This item also includes all design efforts during construction including, but not limited to, submittal reviews, site visits, periodic as-built updates, and record drawing preparation. Progress payments for this item will be made in accordance with the Government-approved cost-loaded project schedule.

1.1.5.2 Unit of Measure

Unit of measure: Job.

1.1.6 Construction Option - North College Street between Oakwood Drive and Central Avenue

1.1.6.1 Payment

Full payment for this CLIN will be made for all labor, plant, and material for construction of all features of work as identified in Section 01 11 00 SUMMARY OF WORK within the North College Street Right-of-Way, between Oakwood Drive and Central Avenue, and as prescribed in the Contractor-designed and Government-accepted construction specifications and drawings. This includes, but is not limited to, all work associated with the installation of potable water mains, replacement and addition of fire hydrants, integration of valves, fittings, and necessary appurtenances, domestic and commercial service line reconnections, abandonment or removal of existing water infrastructure, and full site restoration required to meet the project performance criteria. This item also includes all design efforts during construction including, but not limited to, submittal reviews, site visits, periodic as-built updates, and record drawing preparation. Progress payments for this item will be made in accordance with the Government-approved cost-loaded project schedule.

1.1.6.2 Unit of Measure

Unit of measure: Job.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

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PROJECT SCHEDULE

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.

AACE INTERNATIONAL (AACE)

AACE 29R-03	(2011) Forensic Schedule Analysis
AACE 52R-06	(2006) Time Impact Analysis - As Applied in Construction
AACE 84R-13	(2015) Planning and Accounting for Adverse Weather

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 67-17	(2017) Schedule Delay Analysis
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U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11	(2017) Administration -- Project Schedules
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1.2 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification 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

Project Scheduler Qualifications; G

Preliminary Project Schedule; G

Initial Project Schedule; G

Periodic Schedule Update; G

1.3 PROJECT SCHEDULER QUALIFICATIONS

Designate an authorized representative to be responsible for the preparation of the schedule and all required updating and production of reports. The Designated Project Scheduler must have prepared and maintained at least three previous construction schedules for projects of similar size and complexity to this contract, using Primavera P6. Representative must have a comprehensive knowledge of CPM scheduling

principles and application.

PART 2 PRODUCTS

2.1 SOFTWARE

The scheduling software utilized to produce and update the schedules required herein must be capable of meeting all requirements of this specification.

2.1.1 Government Default Software

The Government intends to use Primavera P6 version 20.12

2.1.2 Contractor Software

Scheduling software used by the contractor must be able to meet the requirements of this specification and be compatible with the software used by the government; Primavera P6 version 20.12.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Prepare for approval a project schedule, as specified herein. Show in the schedule the proposed sequence to perform the work and dates contemplated for starting and completing all schedule activities. The scheduling of the entire project is required. The scheduling of design and construction is the responsibility of the Contractor. Contractor management personnel must actively participate in its development. Designers, Subcontractors, and suppliers working on the project must also contribute in developing and maintaining an accurate Project Schedule. Provide a schedule that is a forward planning as well as a project monitoring tool. Use the Critical Path Method (CPM) of network calculation to generate all Project Schedules. Prepare each Project Schedule using the Precedence Diagram Method (PDM).

3.1.1 Scheduling Expectations Kickoff Meeting(SEKO)

In conjunction with the post award conference or pre construction conference the Government and the Contractor will hold a separate and distinct Scheduling Expectations Kickoff Meeting(SEKO). The intent of this meeting is for the Government to review with the contractor the requirements of the scheduling specification, communicate the Government's expectations regarding schedule development and management, and answer any questions the Contractor may have regarding the schedule requirements.

3.2 BASIS FOR PAYMENT AND COST LOADING

The schedule is the basis for determining contract earnings during each update period and therefore the amount of each progress payment. The aggregate value of all activities coded to a contract CLIN must equal the value of the CLIN. Match the progress payment "Pay Period Thru" date in RMS to the schedule data date.

3.2.1 Activity Cost Loading

Activity cost loading must be reasonable and without front-end loading. Activities with a negative cost loading is not allowed. Provide additional

documentation to demonstrate reasonableness if requested by the Contracting Officer.

3.2.2 Withholdings / Payment Rejection

Failure to meet the requirements of this specification may result in the disapproval of the preliminary, initial, or periodic schedule updates and subsequent rejection of payment requests until compliance is met.

In the event that the Contracting Officer directs schedule revisions and those revisions have not been included in subsequent Project Schedule revisions or updates, the Contracting Officer may withhold 10 percent of pay request amount from each payment period until such revisions to the project schedule have been made.

3.3 PROJECT SCHEDULE DETAILED REQUIREMENTS

3.3.1 File Naming Convention

All contractual scheduling documents shall be submitted with a three part naming structure comprised of: 1. Contract ID Number, 2. Schedule Type and 3. Version.

The Contract ID Number shall align with the official contract documents and numbering structure. A truncated version of this number may be appropriate.

The Schedule Type shall be one of the following options:

- "1PREL" for Preliminary Schedules
- "2INIT" for Initial Schedules
- "3MPCT" for schedules that model potential delays
- "4RBAS" for Re-baseline Schedules
- "5UP##" for Periodic Schedule Updates
- "6RCVR" for Recovery Schedules
- "7COMPL" for Completion Schedules

The version # shall be used to identify subsequent updates.

An Example naming structure: A123456-2INIT-V02; This file would be submitted as the second version of the Initial Schedule for contract A123456

3.3.2 Level of Detail Required

Develop the Project Schedule to the appropriate level of detail to address major milestones and to allow for satisfactory project planning and execution. Failure to develop the Project Schedule to an appropriate level of detail will result in its disapproval. The Contracting Officer will consider, but is not limited to, the following characteristics and requirements to determine appropriate level of detail:

3.3.3 Activity Durations

Reasonable activity durations are those that allow the progress of ongoing activities to be accurately determined between update periods. The unit of measurement for durations in "days". Non-procurement activities Original Durations (OD) are not to exceed 30 calendar days.

3.3.4 Design and Permit Activities

Include design and permit activities with the necessary conferences and follow-up actions and design package submission dates. Include the design schedule in the project schedule, showing the sequence of events involved in carrying out the project design tasks within the specific contract period. Provide a detailed level of scheduling sufficient to identify all major design tasks, including those that control the flow of work. Also include review and correction periods associated with each item. At a minimum, the contractor must include the following design action items as part of the schedule.

- Initial Design Conference
- Interim Design Quality Control Review (DQC)
- Interim Design Submittal
- Interim Government Conformance Review
- Interim Review Conference
- Final Design Quality Control Review (DQC)
- Final Design Submittal
- Final Government Conformance Review
- Final Review Conference
- Design Complete Documents

3.3.5 Submittals, Fabrication, and Procurement Activities

Include in the schedule activities associated with critical submittals and their approvals, procurement, fabrication, and delivery of long lead materials, equipment, fabricated assemblies, and supplies. Long lead procurement activities are those with an anticipated procurement sequence of over 90 calendar days.

3.3.6 Closeout Activities

Include activities associated with the closeout of the project that take place after the contractor is substantially complete. The contractor shall maintain at least 45 days of time, post substantial completion, to account for all closeout related activities. These activities may include, but are not limited to: Final Punchlist Corrections, Final Walk Through, and Acceptance, Preparation and Submission of O&M Manuals and As-Builts.

3.3.7 Government Activities

Show Government and other agency activities that could impact schedule progress. These activities include, but are not limited to approvals, acceptance, design reviews, environmental permit approvals by State regulators, inspections, utility tie-in, Government Furnished Equipment (GFE) and Notice to Proceed (NTP) for phasing requirements.

3.3.8 Standard Activity Coding Dictionary

Use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11. This exact structure is mandatory. Develop and assign all Activity Codes to activities as detailed herein.

The SDEF format is as follows:

Field	Activity Code	Length	Description
1	WRKP	3	Workers per day
2	RESP	4	Responsible party
3	AREA	4	Area of work
4	MODF	6	Modification Number
5	BIDI	6	Bid Item (CLIN)
6	PHAS	2	Phase of work
7	CATW	1	Category of work
8	FOW	20	Feature of work*
*Some systems require that FEATURE OF WORK values be placed in several activity code fields. The notation shown is for Primavera P6. Refer to the specific software guidelines with respect to the FEATURE OF WORK field requirements.			

3.3.8.1 Workers Per Day (WRKP)

Assign Workers per day coding for all field construction or direct work activities. Workers per day is based on the average number of workers expected each day to perform a task for the duration of that activity. Activity durations should be based on, in part, the number of workers assigned to that task.

3.3.8.2 Responsible Party Coding (RESP)

Assign responsibility coding for all activities to the Prime Contractor, Subcontractor(s) or Government agency(ies) responsible for performing the activity.

- a. Activities coded with a Government Responsibility code include, but are not limited to: Government approvals, Government design reviews, environmental permit approvals by State regulators, Government Furnished Property/Equipment (GFP) and Notice to Proceed (NTP) for phasing requirements.
- b. Activities cannot have more than one Responsibility Code. Examples of acceptable activity code values are: DOR (for the designer of record); ELEC (for the electrical subcontractor); MECH (for the mechanical subcontractor); and GOVT (for USACE).

3.3.8.3 Area of Work Coding (AREA)

Assign Work Area coding to activities based upon the work area in which the activity occurs. Define work areas based on resource constraints or space constraints that would preclude a resource, such as a particular trade or craft work crew from working in more than one work area at a time due to restraints on resources or space. Examples of Work Area Coding include

different areas within a floor of a building, different floors within a building, and different buildings within a complex of buildings. Activities cannot have more than one Work Area Code.

3.3.8.4 Modification Number (MODF)

Assign a Modification Number Code to any activity or sequence of activities added to the schedule as a result of a Contract Modification, when approved by Contracting Officer. Key all Code values to the Government's modification numbering system. An activity can have only one Modification Number Code.

3.3.8.5 Bid Item Coding (BIDI)

Assign a Bid Item Code to all activities using the Contract Line Item Number (CLIN) to which the activity belongs, even when an activity is not cost loaded. An activity can have only one BIDI Code.

3.3.8.6 Phase of Work Coding (PHAS)

Assign Phase of Work Code to all activities. Examples of phase of work are design phase, procurement phase and construction phase. Each activity can have only one Phase of Work code.

- a. Code proposed fast track design and construction phases proposed to allow filtering and organizing the schedule by fast track design and construction packages.
- b. If the contract specifies phasing with separately defined performance periods, identify a Phase Code to allow filtering and organizing the schedule accordingly.

3.3.8.7 Category of Work Coding (CATW)

Assign a Category of Work Code to all activities. Category of Work Codes include, but are not limited to design, design submittal, design reviews, review conferences, permits, construction submittal, procurement, fabrication, weather sensitive installation, non-weather sensitive installation, start-up, and testing activities. Each activity can have no more than one Category of Work Code.

3.3.8.8 Feature of Work Coding (FOW)

Assign a Feature of Work Code to appropriate activities based on the Definable Feature of Work to which the activity belongs based on the approved QC plan.

Definable Feature of Work is defined in Section 01 45 00 QUALITY CONTROL. An activity can have only one Feature of Work Code.

3.3.9 Contract Milestones and Constraints

Milestone activities are to be used for significant project events including, but not limited to, project phasing, project start and end activities, or interim completion dates. The use of artificial float constraints such as "zero free float" or "zero total float" are prohibited.

Mandatory constraints that ignore or effect network logic are prohibited. No constrained dates are allowed in the schedule other than those specified

herein. Submit additional constraints to the Contracting Officer for approval on a case by case basis.

3.3.9.1 Project Start Date Milestone and Constraint

The first activity in the project schedule must be a start milestone titled "NTP Acknowledged," which must have a "Start On" constraint date equal to the date that the NTP is acknowledged.

3.3.9.2 End Project Finish Milestone and Constraint

The last activity in the schedule must be a finish milestone titled "End Project."

Constrain the project schedule to the Contract Completion Date in such a way that if the schedule calculates an early finish, then the float calculation for "End Project" milestone reflects positive float on the longest path. If the project schedule calculates a late finish, then the "End Project" milestone float calculation reflects negative float on the longest path. The government is under no obligation to accelerate Government activities to support a Contractor's early completion.

3.3.9.3 Interim Completion Dates and Constraints

Constrain contractually specified interim completion dates to show negative float when the calculated late finish date of the last activity in that phase is later than the specified interim completion date.

3.3.9.3.1 Start Phase

Use a start milestone as the first activity for a project phase. Call the start milestone "Start Phase X" where "X" refers to the phase of work.

3.3.9.3.2 End Phase

Use a finish milestone as the last activity for a project phase. Call the finish milestone "End Phase X" where "X" refers to the phase of work.

3.3.10 Adverse Weather

Ensure anticipated adverse weather is accounted for in the Project Schedule. AACE 84R-13 provides methodologies for techniques in planning for adverse weather. The preferred methodology is the use of a weather calendar. If a method other than a weather calendar is proposed the discuss the reason during the SEKO meeting. The use of a methodology other than a weather calendar must first be approved by the Contracting Officer.

3.3.11 Calendars

Schedule activities on a Calendar to which the activity logically belongs. Develop calendars to accommodate any contract defined work period such as a 7-day calendar for Government Acceptance activities, concrete cure times, etc. Develop the default Calendar to match the physical work plan with non-work periods identified including weekends and holidays. Develop Seasonal Calendar(s) and assign to seasonally affected activities as applicable.

If an activity is weather sensitive it should be assigned to a calendar showing non-work days on a monthly basis, with the non-work days selected at

random across the weeks of the calendar, using the anticipated days provided in the contract clause PHYSICAL DATA. Assign non-work days to match the TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER clause; which may be based upon calendar days (7 days per week), 6 days per week, or 5 days per week. The randomized selection of days across the weeks of the calendar should be consistent on all work calendars. Assign non-work days one year beyond the required Contract Completion Date so that adverse weather days are accounted for in case of a planned late finish.

3.3.12 Open Ended Logic

Only two open ended activities are allowed: the first activity "NTP Acknowledged" is to have no predecessor logic, and the last activity -"End Project" is to have no successor logic. Except as noted above all activities are to have at least a start-to-start or finish-to-start relationship with its predecessor(s) and a finish-to-finish or finish-to-start relationship with its successor(s).

Predecessor open ended logic may be allowed in a time impact analyses upon the Contracting Officer's approval.

3.3.13 Default Progress Data Disallowed

Actual Start and Finish dates must not automatically update with default mechanisms included in the scheduling software. Updating of the percent complete and the remaining duration of any activity must be independent functions. Disable program features that calculate one of these parameters from the other. Activity Actual Start (AS) and Actual Finish (AF) dates assigned during the updating process must match those dates provided in the Contractor Quality Control Reports. Failure to document the AS and AF dates in the Daily Quality Control report will result in disapproval of the Contractor's schedule.

3.3.14 Out-of-Sequence Progress

Activities that have progressed before all preceding logic has been satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case basis subject to approval by the Contracting Officer. Propose logic corrections to eliminate out of sequence progress or justify not changing the sequencing for approval prior to submitting an updated project schedule. Address out of sequence progress or logic changes in the Narrative Report and in the periodic schedule update meetings.

3.3.15 Added and Deleted Activities

Do not delete activities from the project schedule or add new activities to the schedule without approval from the Contracting Officer. Activity ID and description changes are considered new activities and cannot be changed without Contracting Officer approval.

3.3.16 Original Durations

Activity Original Durations (OD) must be reasonable to perform the work item. OD changes are prohibited unless justification is provided and approved by the Contracting Officer.

3.3.17 Leads, Lags, and Start to Finish Relationships

Lags must be reasonable as determined by the Government and not used in

place of realistic original durations, must not be in place to artificially absorb or create float, or to replace proper schedule logic.

- a. Leads (negative lags) are prohibited.
- b. Start to Finish (SF) relationships are prohibited.

3.3.18 Retained Logic

Schedule calculations must retain the logic between predecessors and successors ("retained logic" mode) even when the successor activity(s) starts and the predecessor activity(s) has not finished (out-of-sequence progress). Software features that in effect sever the tie between predecessor and successor activities when the successor has started and the predecessor logic is not satisfied ("progress override") are not be allowed.

3.3.19 Percent Complete

Update the percent complete for each activity started, based on the realistic assessment of earned value. Activities which are complete but for remaining minor punch list work and which do not restrain the initiation of successor activities may be declared 100 percent complete to allow for proper schedule management. Budgeted cost of activity is to be reduced by the amount needed to correct deficiency. The activity referenced in paragraph COST LOADING of CLOSEOUT ACTIVITIES must have its budgeted cost increased by this amount.

3.3.20 Remaining Duration

Update the remaining duration for each activity based on the number of estimated workdays it will take to complete the activity. Remaining duration may not mathematically correlate with percentage found under paragraph entitled Percent Complete. The remaining duration for unstarted activities are not to be less than its original duration.

3.3.21 Cost Loading of Closeout Activities

Cost load the "Correction of punch list from Government pre-final inspection" activity(ies) not less than 1 percent of the present contract value. Activity(ies) may be declared 100 percent complete upon the Government's verification of completion and correction of all punch list work identified during Government pre-final inspection(s).

3.3.21.1 As-Built Drawings

If there is no separate contract line item (CLIN) for as-built drawings, cost load the "Submission and approval of as-built drawings" activity not less than \$35,000 or 1 percent of the present contract value, which ever is greater, up to \$200,000. Activity will be declared 100 percent complete upon the Government's approval.

3.3.21.2 O & M Manuals

Cost load the "Submission and approval of O & M manuals" activity not less than \$20,000. Activity will be declared 100 percent complete upon the Government's approval of all O & M manuals.

3.3.22 Early Completion Schedule and the Right to Finish Early

An Early Completion Schedule is an Initial Project Schedule (IPS) that indicates all scope of the required contract work will be completed before the contractually required completion date.

- a. No IPS indicating an Early Completion will be accepted without being fully resource-loaded (including crew sizes and manhours) and the Government agreeing that the schedule is reasonable and achievable.
- b. The Government is under no obligation to accelerate work items it is responsible for to ensure that the early completion is met nor is it responsible to modify incremental funding (if applicable) for the project to meet the contractor's accelerated work.

3.4 PROJECT SCHEDULE SUBMISSIONS

Provide the submissions as described below. The data .xer file, reports and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS. If the Contractor fails or refuses to furnish the information and schedule updates as set forth herein, the Contractor will be deemed not to have provided an estimate upon which a progress payment can be made.

Review comments made by the Government on the schedule(s) do not relieve the Contractor from compliance with requirements of the Contract Documents.

3.4.1 Preliminary Project Schedule Submission

Due within 15 calendar days after the SEKO, submit the Preliminary Project Schedule defining the planned operations detailed for the first 90 calendar days for approval. The approved Preliminary Project Schedule will be used for payment purposes not to exceed 90 calendar days after NTP. Completely cost load the Preliminary Project Schedule to balance the contract award CLINs shown on the Price Schedule. The Preliminary Project Schedule may be summary in nature for the remaining performance period. It must be early start and late finish constrained and logically tied as specified. The Preliminary Project Schedule forms the basis for the Initial Project Schedule specified herein and must include all of the required plan and program preparations, submissions and approvals identified in the contract (for example, Quality Control Plan, Safety Plan, and Environmental Protection Plan) as well as design activities, planned submissions of all early design packages, permitting activities, design review conference activities, and other non-construction activities intended to occur within the first 90 calendar days. Government acceptance of the associated design package(s) and all other specified Program and Plan approvals must occur prior to any planned construction activities. Activity code any activities that are summary in nature after the first 90 calendar days with Bid Item (CLIN) code (BIDI), Responsibility Code (RESP) and Feature of Work code (FOW).

3.4.2 Initial Project Schedule Submission

Submit the Initial Project Schedule for approval within 60 calendar days after notice to proceed is issued. The schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the entire contract performance period. Include in the design-build schedule detailed design and permitting activities, including but not limited to identification of individual design packages, design

submission, reviews and conferences; permit submissions and any required Government actions; and long lead item acquisition prior to design completion. Also cover in the initial design-build schedule the entire construction effort with as much detail as is known at the time but, as a minimum, include all construction start and completion milestones, and detailed construction activities through the dry-in, including all activity coding and cost loading. Include the remaining construction, including cost loading, but it may be scheduled summary in nature. As the design proceeds and design packages are developed, fully detail the remaining construction activities concurrent with the monthly schedule updating process. Constrain construction activities by Government acceptance of associated designs. When the design is complete, incorporate into the then approved schedule update all remaining detailed construction activities that are planned to occur after the dry-in milestone. No payment will be made for work items not fully detailed in the Project Schedule.

3.4.2.1 Design Package Schedule Submission

With each design package submitted to the Government, submit a fragnet schedule extracted from the then current Preliminary, Initial or Updated schedule which covers the activities associated with that Design Package including construction, procurement and permitting activities.

3.4.3 Periodic Schedule Updates

Update the Project Schedule on a regular basis, monthly at a minimum. The data date for each monthly update shall be decided on by the Contracting Officer. The Contracting Officer may deem the data dates match the "Pay Period Thru" field in RMS. Provide a draft Periodic Schedule Update for review at the schedule update meetings as prescribed in the paragraph PERIODIC SCHEDULE UPDATE MEETINGS. These updates will enable the Government to assess Contractor's progress. Update the schedule to include detailed construction activities as the design progresses, but not later than the submission of the final un-reviewed design submission for each separate design package. The Contracting Officer may require submission of detailed schedule activities for any distinct construction that is started prior to submission of a final design submission if such activity is authorized.

- a. Update information including Actual Start Dates (AS), Actual Finish Dates (AF), Remaining Durations (RD), and Percent Complete. Updated information is subject to the approval of the Government at the meeting.
- b. AS and AF dates must match the date(s) reported on the Contractor's Quality Control Report for an activity start or finish.

3.4.4 Re-Baseline for Exercised Options

Submit the Re-baseline schedule for approval within 42 calendar days after the exercising of options that extend contract duration. The schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the entire contract performance period. All schedule requirements listed for Preliminary and Initial schedule submissions shall also be required in the Re-Baseline schedule submissions; to include but not limited to: software settings, detail requirements, coding, cost loading, etc.

3.5 SUBMISSION REQUIREMENTS

Submit the following items for the Preliminary Schedule, Initial Schedule, and every Periodic Schedule Update throughout the life of the project:

3.5.1 Electronic Scheduling Data

Provide electronic scheduling data containing the current project schedule and all previously submitted schedules in the format of the scheduling software (e.g. .xer). Also include the Narrative Report and all required Schedule Reports. The electronic file is to identify the type of schedule (Preliminary, Initial, Update), full contract number, Data Date and schedule file name. Each schedule must have a unique file name and use project specific settings. The file naming convention is to be determined at SEKO meeting.

3.5.2 Narrative Report

Provide a Narrative Report with each schedule submission. The Schedule Narrative Report is a "stand alone" report in PDF or Word format. Title the report "Schedule Narrative Report". Show the Report date, schedule name, and contract number on the first page. Indicate who is responsible for the schedule update and narrative report. Provide a brief description of the Project Scope. The Narrative Report is expected to communicate to the Government the thorough analysis of the schedule output and the plans to compensate for problems, either current or potential, which are revealed through that analysis. Include the following information at a minimum in the Narrative Report:

- a. Identify and discuss the work scheduled to start in the next update period.
- b. Describe activities along the project's most critical path (longest path and/or float path #1) in addition to near critical activities within 30 calendar days of the most critical path.
- c. Describe current and anticipated problem areas, delaying factors and their impact, and an explanation of corrective actions taken or required to be taken. Identify the party responsible for delay, if applicable.
- d. Identify and explain why activities, based on their calculated late dates, should have either started or finished during the update period but did not.
- e. Identify and discuss all schedule changes by activity ID and activity name including what specifically was changed and why the change was needed. Include at a minimum added and deleted activities, logic changes, duration changes, calendar changes, lag changes, resource changes, and actual start and finish date changes.
- f. Identify and discuss out-of-sequence work.
- g. If the longest/critical path changes from a monthly update to the next, provide an explanation of the factors driving the change.
- h. Respond to USACE Schedule Review Comments from the previous update(s).

3.5.3 Schedule Reports

The format, filtering, organizing, and sorting for each schedule report will be as directed by the Contracting Officer. Typically, reports contain Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float, Actual Start Date, Actual Finish Date, and Percent Complete. Provide the reports electronically in .pdf format. The following lists typical reports that will be requested:

3.5.3.1 Activity Report

List of all activities sorted according to activity number.

3.5.3.2 Logic Report

List of detailed predecessor and successor activities for every activity in ascending order by activity number.

3.5.3.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. List activities which have the same amount of total float in ascending order of Early Start Dates. Do not show completed activities on this report.

3.5.3.4 Earnings Report by CLIN

A compilation of the Total Earnings on the project from the NTP to the data date, which reflects the earnings of activities based on the agreements made in the schedule update meeting defined herein. Provided a complete schedule update has been furnished, this report serves as the basis of determining progress payments. Group activities by CLIN number and sort by activity number. Provide a total CLIN percent earned value, CLIN percent complete, and project percent complete. The printed report must contain the following for each activity: the Activity Number, Activity Description, Original Budgeted Amount, Earnings to Date, Earnings this period, Total Quantity, Quantity to Date, and Percent Complete (based on cost).

3.5.3.5 Scheduling and Leveling Report

Provide a Scheduling/Leveling Report generated from the current project schedule being submitted.

3.5.4 Network Diagram

The Network Diagram is required for the Preliminary, Initial and Periodic Updates. Depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.5.4.1 Continuous Flow

Show a continuous flow from left to right with no arrows from right to left. Show the activity number, description, duration, and estimated earned value on the diagram.

3.5.4.2 Project Milestone Dates

Show dates on the diagram for start of project, any contract required interim completion dates, and contract completion dates.

3.5.4.3 Critical Path

Show all activities on the critical path. The critical path is defined as the longest path.

3.5.4.4 Grouping and Sorting

Group and sort activities as directed to assist in the understanding of the activity sequence. Typically, this flow will group activities by major elements of work, category of work, work area and/or responsibility.

3.5.4.5 Cash Flow / Schedule Variance Control (SVC) Diagram

With each schedule submission, provide a SVC diagram showing 1) Cash Flow S-Curves indicating planned project cost based on projected early and late activity finish dates, and 2) Earned Value to-date.

3.6 SCHEDULE EXPECTATIONS KICKOFF MEETING (SEKO)

Attend a kickoff meeting with the Government to cover the schedule specification requirements to ensure correct development of schedule submittals by the Contractor. The Government intends to conduct the SEKO within 7 days after issuing NTP. The Contracting Officer may provide the contractor with schedule (P6) layouts, templates, and settings to help the contractor develop an acceptable schedule.

3.7 PERIODIC SCHEDULE UPDATE

3.7.1 Periodic Schedule Update Meetings

Conduct periodic schedule update meetings for the purpose of reviewing the proposed Periodic Schedule Update, Narrative Report, Schedule Reports, and progress payment. Conduct meetings at least monthly within five days of the proposed schedule data date. Provide a computer with the scheduling software loaded and a projector which allows all meeting participants to view the proposed schedule during the meeting. The Contractor's authorized scheduler must organize, group, sort, filter, perform schedule revisions as needed and review functions as requested by the Contractor and/or Government. The Contractor scheduler must attend in person unless virtual attendance is approved by Contracting Officer. The meeting is a working interactive exchange which allows the Government and Contractor the opportunity to review the updated schedule on a real time and interactive basis. The meeting will last no longer than 8 hours. Provide a draft of the proposed narrative report and schedule data file to the Government a minimum of two workdays in advance of the meeting. The Contractor's Project Manager must attend the meeting with the authorized representative of the Contracting Officer. Superintendents, foremen and major subcontractors must attend the meeting as required to discuss the project schedule and work. Following the schedule update meeting, make corrections to the schedule and resubmit, following the required schedule naming convention. Include only those changes approved by the Government in the schedule review meeting. Only approved schedules may be used to generate invoices for payment.

3.7.2 Update Submission Following Progress Meeting

Submit the complete Periodic Schedule Update of the Project Schedule containing all approved progress, revisions, and adjustments, pursuant to paragraph SUBMISSION REQUIREMENTS not later than 4 workdays after the periodic schedule update meeting.

3.8 WEEKLY PROGRESS MEETINGS

Conduct a weekly meeting with the Government (or as otherwise mutually agreed to) between the meetings described in paragraph entitled PERIODIC SCHEDULE UPDATE MEETINGS for the purpose of jointly reviewing the actual progress of the project as compared to the as planned progress and to review planned activities for the upcoming two weeks. Use the current approved schedule update for the purposes of this meeting and for the production and review of reports. At the weekly progress meeting, address the status of RFIs, RFPs and Submittals.

3.9 REQUESTS FOR TIME EXTENSIONS

ASCE 67-17 provides delay analysis guidelines. If there is a conflict between the contract and guidance provided in ASCE 67-17, the contract will govern. Provide justification of delay to the Contracting Officer in accordance with the contract provisions and clauses for approval, within 10 days of a delay occurring. Also prepare a time impact analysis for each Government request for proposal (RFP).

3.9.1 Justification of Delay

Provide a description of the event(s) that caused the delay and/or impact to the work. As part of the description, identify all schedule activities impacted. Show that the event that caused the delay/impact was the responsibility of the Government. Provide a time impact analysis or forensic analysis that demonstrates the effects of the delay or impact on the project completion date, or interim completion date(s). Evaluate multiple impacts chronologically; each with its own justification of delay. With multiple impacts consider any concurrency of delay. A time extension and the schedule fragnet becomes part of the project schedule and all future schedule updates upon approval by the Contracting Officer. The term "time impact analysis" has an array of regional meanings. For the purpose of this contract, "Time Impact Analysis" or "TIA" may be used to describe the analysis methods identified in AACE 52R-06 or AACE 29R-03.

3.9.2 Changes That Do Not Cause Delay

If it is determined that a change does not constitute a schedule time extension, a fragnet as described in paragraph FRAGMENTARY NETWORK, is to be created and inserted into the Project schedule.

3.9.3 Time Impact Analysis (Prospective Analysis)

Prepare a time impact analysis for approval by the Contracting Officer based on industry standard AACE 52R-06. Utilize a copy of the last approved schedule prior to the first day of the impact or delay for the time impact analysis. If Contracting Officer determines the time frame between the last approved schedule and the first day of impact is too great, prepare an interim updated schedule to perform the time impact analysis. Unless approved by the Contracting Officer, no other changes may be incorporated into the schedule being used to justify the time impact.

3.9.4 Forensic Schedule Analysis (Retrospective Analysis)

In cases where AACE 52R-06 is not an appropriate analysis technique, prepare an analysis for approval by the Contracting Officer based on methodologies identified in industry standard AACE 29R-03. Identify which methodology was chosen and explain why it is more appropriate than other methodologies available.

3.9.5 Fragmentary Network (Fragnet)

Prepare a proposed fragnet for time impact analysis consisting of a sequence of new activities that are proposed to be added to the project schedule to demonstrate the influence of the delay or impact to the project's contractual dates. Clearly show how the proposed fragnet is to be tied into the project schedule including all predecessors and successors to the fragnet activities. The proposed fragnet must be approved by the Contracting Officer prior to incorporation into the project schedule.

3.9.6 Time Extension

The Contracting Officer must approve the Justification of Delay including the time impact analysis or forensic analysis before a time extension will be granted. No time extension will be granted unless the delay consumes all available Project Float and extends the projected finish date ("End Project" milestone) beyond the Contract Completion Date. The time extension will be in calendar days.

Actual delays that are found to be caused by the Contractor's own actions, which result in a calculated schedule delay, are not a cause for an extension to the performance period, completion date, or any interim milestone date.

3.9.7 Impact to Early Completion Schedule

No extended overhead will be paid for delay prior to the original Contract Completion Date for an Early Completion IPS unless the Contractor actually performed work in accordance with that Early Completion Schedule. The Contractor must show that an early completion was achievable had it not been for the impact.

3.10 FAILURE TO ACHIEVE PROGRESS

Should the progress fall behind the approved project schedule for reasons other than those that are excusable within the terms of the contract, the Contracting Officer may require provision of a written recovery plan for approval. The plan must detail how progress will be made-up to include which activities will be accelerated by adding additional crews, longer work hours, extra workdays, etc.

3.10.1 Artificially Improving Progress

Artificially improving progress by means such as, but not limited to, revising the schedule logic, modifying, or adding constraints, shortening activity durations, or changing calendars in the project schedule is prohibited. Indicate assumptions made and the basis for any logic, constraint, duration, and calendar changes used in the creation of the recovery plan. Any additional resources, manpower, or daily and weekly work hour changes proposed in the recovery plan must be evident at the work

site and documented in the daily report along with the Schedule Narrative Report.

3.10.2 Failure to Perform

Failure to perform work and maintain progress in accordance with the supplemental recovery plan may result in an interim and final unsatisfactory performance rating and may result in corrective action directed by the Contracting Officer pursuant to FAR 52.236-15 Schedules for Construction Contracts, FAR 52.249-10 Default (Fixed-Price Construction), and other contract provisions.

3.10.3 Recovery Schedule

Should the Contracting Officer find it necessary, submit a recovery schedule which shows the contractors plan to recover negative Total Float. Provide a schedule that is a forward planning as well as a project monitoring tool. The schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the entire contract performance period and zero days of Total Float. The Recovery Schedule shall also contain a narrative in the form of a Recovery Plan.

3.11 OWNERSHIP OF FLOAT

Except for the provision given in the paragraph IMPACT TO EARLY COMPLETION SCHEDULE, float available in the schedule, at any time, belongs to the Project and is available for Contractor and Government use. This includes activity and project float. Activity float is the number of workdays that an activity can be delayed without causing a delay to the "End Project" finish milestone. Project float (if applicable) is the number of work days between the projected early finish and the "End Project" finish.

3.12 TRANSFER OF SCHEDULE DATA INTO RESIDENT MANAGEMENT SYSTEM

Ensure schedule data is uploaded to RMS. This data is additional supporting data in a form and detail required by the Contracting Officer pursuant to FAR 52.232-5 Payments under Fixed-Price Construction Contracts. The receipt of a proper payment request pursuant to FAR 52.232-27 Prompt Payment for Construction Contracts is contingent upon the Government receiving both acceptable and approvable hard copies and matching electronic versions of the application for progress payment.

3.13 PRIMAVERA P6 MANDATORY REQUIREMENTS

Ensure Primavera P6 settings provide a schedule capable of fulfilling the requirements of the contract. The following settings are mandatory and required in all schedule submissions to the Government:

- a. Activity Codes must be Project Level, not Global or EPS level.
- b. Calendars must be Project Level, not Global or Resource level.
- c. Activity Duration Types must be set to "Fixed Duration & Units".
- d. Percent Complete Types must be set to "Physical".
- e. Time Period Admin Preferences must remain the default "8.0 hr/day, 40 hr/week, 172 hr/month, 2000 hr/year". Set Calendar Work Hours/Day to 8.0 Hour days.

- f. Set Schedule Option for defining Critical Activities to "Longest Path".
- g. Set Schedule Option for defining progressed activities to "Retained Logic".
- h. Set up cost loading using a single lump sum non-labor resource. The Price/Unit must be \$1/hr, Default Units/Time must be "8h/d", and settings "Auto Compute Actuals" and "Calculate costs from units" un-selected.
- i. Activity ID's must not exceed 10 characters.
- j. Activity Names must have a verb-noun structure and contain the most defining and detailed description within the first 30 characters.
- k. The daily ending hour for all work calendars must be the same.

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SECTION 01 33 00

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SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

1.1.1 Submittal Information

The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

1.1.2 Project Type

The Contractor's Designer of Record (DOR) must approve design-related submittals, and the Contractor's Quality Control Manager must approve all submittals prior to submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

1.1.3 Submission of Submittals

Schedule and provide submittals requiring Government approval before acquiring the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Safety Data Sheets (SDS) and in compliance with existing laws and regulations.

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittal requirements are specified in the technical sections. Examples and descriptions of submittals identified by the Submittal Description (SD) numbers and titles follow:

SD-01 Preconstruction Submittals

Submittals that are required prior to or at the start of construction (work) or the next major phase of the construction on a multiphase contract.

Government approved Division 01 preconstruction submittals that are required prior to or commencing with the start of work must be submitted

within 30 calendar days of contract award unless specified elsewhere in the specifications.

Preconstruction Submittals include schedules and a tabular list of locations, features, and other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates Of Insurance

Surety Bonds

List Of Proposed Subcontractors

List Of Proposed Products

Baseline Network Analysis Schedule (NAS)

Submittal Register

Schedule Of Prices Or Earned Value Report

Accident Prevention Plan

Work Plan

Design Quality Control (DQC) plan

Quality Control (QC) plan

Environmental Protection Plan

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

Design submittals, design substantiation submittals and extensions of design submittals.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

Report that includes findings of a test required to be performed on an actual portion of the work or prototype prepared for the project before

shipment to job site.

Report that includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports

Daily logs and checklists

Final acceptance test and operational test procedure

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that the product, system, or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor. The document purpose is to further promote the orderly progression of a portion of the work by documenting procedures, acceptability of methods, or personnel qualifications.

Confined space entry permits

Text of posted operating instructions

SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and Safety Data Sheets (SDS) concerning impedances, hazards and safety precautions.

SD-10 Operation and Maintenance Data

Data provided by the manufacturer, or the system provider, including manufacturer's help and product line documentation, necessary to maintain and install equipment, for operating and maintenance use by facility personnel.

Data required by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

Data incorporated in an operations and maintenance manual or control system.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Submittals required for Guiding Principle Validation (GPV) or Third Party Certification (TPC).

Special requirements necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also,

submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve the submittal.

1.2.3 Work

As used in this section, on-site and off-site construction required by contract documents, including labor necessary to produce submittals, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction. In exception, excludes work to produce SD-01 submittals.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification 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

Submittal Register; G

1.4 SUBMITTAL CLASSIFICATION

1.4.1 Government Approved (G)

Government approval is required for any variations from the Solicitation or the Accepted Proposal and for other items as designated by the Government.

Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, submittals are considered to be "shop drawings."

1.4.2 Design-Build Submittal Classifications

1.4.2.1 Designer of Record Approved (DA)

Designer of Record (DOR) approval is required for extensions of design; critical materials; any variations from the Solicitation, the Accepted Proposal, or the completed design; equipment whose compatibility with the entire system must be checked; and other items as designated by the Contracting Officer. Provide the Government with the number of copies designated hereinafter of all DOR approved submittals. The Government may review any or all Designer of Record approved submittals for conformance with the Solicitation, the Accepted Proposal, and the completed design. The Government will review all submittals designated as varying from the Solicitation or Accepted Proposal, as described below. Provide design submittals in accordance with Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD). Generally, list design submittals under SD-05 Design Data.

1.4.2.2 Government Conformance Review of Design (CR)

The Government will review all intermediate and final design submittals for conformance with the technical requirements of the Solicitation. Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) covers the design submittal

and review process in detail. Review will be only for conformance with the applicable codes, standards, and contract requirements. Government conformance review does not relieve the Contractor's Designer of Record (DOR) of responsibility for the design or the Contractor of compliance with contract requirements. Design data includes the design documents described in Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD).

1.4.2.3 Designer of Record Approved/Government Conformance Review (DA/CR)

1.4.2.3.1 Variations from the Accepted Design

DOR approval and the Government's concurrence are required for any proposed variation from the accepted design that still complies with the contract before the Contractor is authorized to proceed with material acquisition or installation. If necessary to facilitate the project schedule, before official submission to the Government, the Contractor and the DOR may discuss with the Contracting Officer's Representative a submittal proposing a variation. However, the Government reserves the right to review the submittal before providing an opinion. In any case, the Government will not formally agree to or provide a preliminary opinion on any variation without the DOR's approval or recommended approval. The Government reserves the right to reject any design variation that may conflict with standard practices, design intent, operational decisions that were made, or conflict with the reviewed and concurred design..

1.4.2.3.2 Substitutions

Unless prohibited or otherwise provided for elsewhere in the contract, where the Accepted Proposal named products, systems, materials or equipment by manufacturer, brand name, model number, or other specific identification, and the Contractor desires to substitute a manufacturer or model after award, submit a requested substitution for Government concurrence. Include substantiation, through identifying information and the DOR's approval, that the substitute meets the contract requirements and that it is equal in function, performance, quality, and salient features to that in the accepted contract proposal. If the contract otherwise prohibits substitutions of equal named products, systems, materials or equipment by manufacturer, brand name, model number or other specific identification, the request is considered a "variation" to the contract. Variations are discussed below in paragraphs: "DESIGNER OF RECORD APPROVED/GOVERNMENT APPROVED" and VARIATIONS.

1.4.2.4 Designer of Record Approved/Government Approved (DA/GA)

In addition to the above-stated requirements for proposed variations to the accepted design, both DOR and Government Approval and, where applicable, a contract modification are required before the Contractor is authorized to proceed with material acquisition or installation for any proposed variation to the contract (the Solicitation or the Accepted Proposal), that constitutes a change to the contract terms. The Government reserves the right to accept or reject any such proposed variation.

1.4.3 For Information Only

Submittals not requiring Government approval will be for information only. For Design-build construction all submittals not requiring DOR or Government approval will be for information only. Within the terms of the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are not considered to be "shop drawings."

1.5 PREPARATION

1.5.1 Transmittal Form

Use the ENG Form 4025-R transmittal form for submitting both Government-approved and information-only submittals. Submit in accordance with the instructions on the reverse side of the form. These forms or similar forms are included in the RMS CM software that the Contractor is required to use for this contract. Properly complete this form by filling out all the heading blank spaces and identifying each item submitted. Exercise special care to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item. Submittals requiring Government Conformance Review (CR) should be identified on the 4025 as information-only (FIO) submittals.

1.5.2 Submittal Format

1.5.2.1 Format of SD-01 Preconstruction Submittals

When the submittal includes a document that is to be used in the project, or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.2.2 Format for SD-02 Shop Drawings

Provide shop drawings not less than 8 1/2 by 11 inches nor more than 30 by 42 inches, except for full-size patterns or templates. Prepare drawings to accurate size, with scale indicated, unless another form is required. Ensure drawings are suitable for reproduction and of a quality to produce clear, distinct lines and letters, with dark lines on a white background.

- a. Include the nameplate data, size, and capacity on drawings. Also include applicable federal, military, industry, and technical society publication references.
- b. Dimension drawings, except diagrams and schematic drawings. Prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.

Submit an electronic copy of drawings in PDF format and native electronic format.

1.5.2.2.1 Drawing Identification

Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph IDENTIFYING SUBMITTALS.

Number drawings in a logical sequence. Each drawing is to bear the number of the submittal in a uniform location next to the title block. Place the Government contract number in the margin, immediately below the title block, for each drawing.

Reserve a blank space, on the right-hand side of each sheet for the Government disposition stamp.

1.5.2.3 Format of SD-03 Product Data

Present product data submittals for each section. Include a table of contents, listing the page and catalog item numbers for product data.

Indicate, by prominent notation, each product that is being submitted; indicate the specification section number and paragraph number to which it pertains.

1.5.2.3.1 Product Information

Supplement product data with material prepared for the project to satisfy the submittal requirements where product data does not exist. Identify this material as developed specifically for the project, with information and format as required for submission of SD-07 Certificates.

Provide product data in units used in the Contract documents. Where product data are included in preprinted catalogs with another unit, submit the dimensions in contract document units, on a separate sheet.

1.5.2.3.2 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.3.3 Data Submission

Collect required data submittals for each specific material, product, unit of work, or system into a single submittal that is marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will not be accepted for expedition of the construction effort.

Submit the manufacturer's instructions before installation.

1.5.2.4 Format of SD-04 Samples

1.5.2.4.1 Sample Characteristics

Furnish samples in the following sizes, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately the same size as specified:

- a. Sample of Equipment or Device: Full size.
- b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11

inches.

- c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.
- d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.
- e. Sample Volume of Nonsolid Materials: Pint. Examples of nonsolid materials are sand and paint.
- f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.
- g. Sample Panel: 4 by 4 feet.
- h. Sample Installation: 100 square feet.

1.5.2.4.2 Sample Incorporation

Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at the time of use.

Recording of Sample Installation: Note and preserve the notation of any area constituting a sample installation, but remove the notation at the final clean-up of the project.

1.5.2.4.3 Comparison Sample

Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.

When color, texture, or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.5.2.5 Format of SD-05 Design Data

Provide design data and certificates on 8 1/2 by 11 inch paper.

1.5.2.6 Format of SD-06 Test Reports

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.7 Format of SD-07 Certificates

Provide design data and certificates on 8 1/2 by 11 inch paper.

1.5.2.8 Format of SD-08 Manufacturer's Instructions

Present manufacturer's instructions submittals for each section. Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry, and technical-society publication references. If supplemental information is needed to clarify the manufacturer's data, submit it as specified for SD-07 Certificates.

Submit the manufacturer's instructions before installation.

1.5.2.8.1 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of such organizations as the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), or Association of Edison Illuminating Companies (AEIC), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.5.2.9 Format of SD-09 Manufacturer's Field Reports

By prominent notation, indicate each report in the submittal. Indicate the specification number and paragraph number to which each report pertains.

1.5.2.10 Format of SD-10 Operation and Maintenance Data (O&M)

Comply with the requirements specified.

1.5.2.11 Format of SD-11 Closeout Submittals

When the submittal includes a document that is to be used in the project or is to become part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document itself, but to a separate sheet accompanying the document.

Provide data in the unit of measure used in the contract documents.

1.5.3 Source Drawings for Shop Drawings

1.5.3.1 Source Drawings

The entire set of source drawing files (DWG) will not be provided to the Contractor. Request the specific Drawing Number for the preparation of shop drawings. Only those drawings requested to prepare shop drawings will be provided. These drawings are provided only after award.

1.5.3.2 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of design and construction data for the referenced project. Any other use or reuse is at the sole risk of the Contractor and without liability or legal exposure to the

Government. The Contractor must make no claim, and waives to the fullest extent permitted by law any claim or cause of action of any nature against the Government, its agents, or its subconsultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities, or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic source reference drawing files are not construction documents. Differences may exist between the source reference drawing files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic source reference drawing files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. The Contractor is responsible for determining if any conflict exists and is solely responsible for performing all field investigations necessary to verify existing conditions. In the event that a conflict arises between the signed and sealed construction documents prepared by the Designer of Record (DOR) and the furnished source drawing files, the signed and sealed construction documents govern. Use of these source reference drawing files does not relieve the Contractor of the duty to fully comply with the contract documents, including and without limitation the need to check, confirm and coordinate the work of all contractors for the project. If the Contractor uses, duplicates or modifies these electronic source reference drawing files for use in producing construction data related to this contract, remove all previous indication of ownership (seals, logos, signatures, initials and dates).

1.5.4 Electronic File Format

Provide submittals in electronic format, with the exception of material samples required for SD-04 Samples items. Compile the submittal file as a single, complete document, to include the Transmittal Form described within, and also separately attach the native files which were used to create PDF. The attached files should include the original digital files used to create the submittal. Name the electronic submittal file specifically according to its contents, and coordinate the file naming convention with the Contracting Officer. Electronic files must be of sufficient quality that all information is legible. Use PDF as the electronic format, unless otherwise specified or directed by the Contracting Officer. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is searchable and can be copied. If documents are scanned, optical character resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file. When required, the electronic file must include a valid electronic signature or a scan of a signature.

Electronic submittal documents smaller than 100 MB shall be submitted directly via the RMS software required by 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE (RMS CM). For electronic submittal documents 100 MB or greater, submit a 4025 in RMS and the accompanying electronic submittal documents through an electronic file sharing system such as the DOD SAFE Web Application located at the following website: <https://safe.apps.mil/>.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Number of SD-01 Preconstruction Submittal Copies

Unless otherwise specified, submit one electronic PDF set of administrative submittals.

1.6.2 Number of SD-04 Samples

- a. Submit two samples, or two sets of samples showing the range of variation, of each required item. One approved sample or set of samples will be retained by the approving authority and one will be returned to the Contractor.
- b. Submit one sample panel or provide one sample installation where directed. Include components listed in the technical section or as directed.
- c. Submit one sample installation, where directed.
- d. Submit one sample of nonsolid materials.

1.7 INFORMATION ONLY SUBMITTALS

Submittals without a designated classification must be certified by the QC manager and submitted to the Contracting Officer for information-only. Provide information-only submittals to the Contracting Officer a minimum of 14 calendar days prior to the Preparatory Meeting for the associated Definable Feature of Work (DFOW). Approval of the Contracting Officer is not required on information only submittals. The Contracting Officer will mark "receipt acknowledged" on submittals for information and will return only the transmittal cover sheet to the Contractor. Normally, submittals for information only will not be returned. However, the Government reserves the right to return unsatisfactory submittals and require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe. For Design-Build construction, the Government will retain one electronic copy of information-only submittals.

1.8 PROJECT SUBMITTAL REGISTER

A sample Project Submittal Register showing items of equipment and materials for when submittals are required by the specifications is provided as "Attachment 5 - Submittal Register" of Section 01 95 00 FORMS AND ATTACHMENTS.

1.8.1 Submittal Management

Prepare and maintain a submittal register, as the work progresses. Do not change data that is output in columns (c), (d), (e), and (f) as delivered by Government; retain data that is output in columns (a), (g), (h), and (i) as approved. As an attachment, provide a submittal register showing items of equipment and materials for which submittals are required by the specifications. This list may not be all-inclusive and additional

submittals may be required. Maintain a submittal register for the project in accordance with Section 01 45 00.15 10 RESIDENT MANAGEMENT SYSTEM CONTRACTOR MODE(RMS CM). The Government will provide an initial submittal register in electronic format with the following fields completed, to the extent that will be required by the Government during subsequent usage.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD Number. and type, e.g., SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in each specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting the project requirements.

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns and all dates on which submittals are received by and returned by the Government.

1.8.2 Design-Build Submittal Register

The Designer of Record develops a complete list of submittals during design and identify required submittals in the specifications, and use the list to prepare the Submittal Register. The list may not be all inclusive and additional submittals may be required by other parts of the contract. Complete the submittal register and submit it to the Contracting Officer for approval within 30 calendar days after Notice to Proceed. The approved submittal register will serve as a scheduling document for submittals and will be used to control submittal actions throughout the contract period. Coordinate the submit dates and need dates with dates in the Contractor prepared progress schedule. Submit monthly or until all submittals have been satisfactorily completed, updates to the submittal register showing the Contractor action codes and actual dates with Government action codes. Revise the submittal register when the progress schedule is revised and submit both for approval.

1.8.3 Preconstruction Use of Submittal Register

Submit the submittal register. Include the QC plan and the project schedule. Verify that all submittals required for the project are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the project schedule:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for the approving authority to receive submittals.

Column (h) Contractor Approval Date: Date that Contractor needs approval of submittal.

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.8.4 Contractor Use of Submittal Register

Update the following fields in the Government-furnished submittal register program or equivalent fields in the program used by the Contractor with each submittal throughout the contract.

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) Date submittal transmitted.

Column (q) Date approval was received.

1.8.5 Approving Authority Use of Submittal Register

Update the following fields:

Column (b) Transmittal Number: List of consecutive, Contractor-assigned numbers.

Column (l) Date submittal was received.

Column (m) through (p) Dates of review actions.

Column (q) Date of return to Contractor.

1.8.6 Action Codes

1.8.6.1 Contractor Action Codes

DESIGN BUILD SUBMITTALS			
Submittal Classifications shown in UFGS Sections	Submittal Classification	Corresponding SpecsIntact Submittal Register Code which is populated in the SI Submittal Register. Software Limitations: (The software shows one character delineation in the SpecsIntact Submittal Register)	RMS - The following Submittal Classifications are populated in RMS when the SpecsIntact Submittal Data File is pulled into RMS)
G	Submittal requires Government	G	GA

DESIGN BUILD SUBMITTALS			
BLANK	Submittal is For Information Only (FIO)	BLANK	FIO
DA	Submittal requires Designer of Record Approval	D	DA
CR	Submittal requires Government Conformance Review	C	CR
DA/CR	Submittal requires Designer of Record Approval and Government Conformance	R	DA/CR
DA/GA	Submittal requires Designer of Record Approval and Government Approval	A	DA/GA

1.8.7 Delivery of Copies

Submit an updated electronic copy of the submittal register to the Contracting Officer with each invoice request and with each design package submission. Provide an updated Submittal Register monthly regardless of whether an invoice is submitted.

1.9 VARIATIONS

Variations from contract requirements require Contracting Officer approval pursuant to contract Clause FAR 52.236-21 Specifications and Drawings for Construction, and will be considered where advantageous to the Government.

1.9.1 Considering Variations

Discussion of variations with the Contracting Officer before submission of a variation submittal will help ensure that functional and quality requirements are met and minimize rejections and resubmittals. For variations that include design changes or some material or product substitutions, the Government may require an evaluation and analysis by a licensed professional engineer hired by the contractor.

Specifically point out variations from contract requirements in a variation submittal. Failure to point out variations may cause the Government to require rejection and removal of such work at no additional cost to the Government.

1.9.2 Proposing Variations

When proposing variation, deliver a submittal, clearly marked as a "VARIATION" to the Contracting Officer, with documentation illustrating the

nature and features of the variation including any necessary technical submittals and why the variation is desirable and beneficial to Government. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

The Contracting Officer will indicate an approval or disapproval of the variation request; and if not approved as submitted, will indicate the Government's reasons therefore. Any work done before such approval is received is performed at the Contractor's risk.

Specifically point out variations from contract requirements in a transmittal letter. Failure to point out variations may cause the Government to require rejection and removal of such work at no additional cost to the Government.

Check the column "variation" of ENG Form 4025 for submittals that include variations proposed by the Contractor. Set forth in writing the reason for any variations and note such variations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted variations.

1.9.3 Warranting that Variations are Compatible

When delivering a variation for approval, the Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.9.4 Review Schedule Extension

In addition to the normal submittal review period, an additional period of 14 calendar days will be allowed for the Government to consider submittals with variations.

1.10 SCHEDULING

Schedule and submit concurrently product data and shop drawings covering component items forming a system or items that are interrelated. Submit pertinent certifications at the same time. No delay damages or time extensions will be allowed for time lost in late submittals.

- a. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work so that work will not be delayed by submittal processing. The Contractor is responsible for additional time required for Government reviews resulting from required resubmittals. The review period for each resubmittal is the same as for the initial submittal.
- b. Submittals required by the contract documents are listed on the submittal register. If a submittal is listed in the submittal register but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but that have been omitted from the register or marked "N/A."
- c. Resubmit the submittal register and annotate it monthly with actual submission and approval dates. When all items on the register have

been fully approved, no further resubmittal is required.

Contracting Officer review will be completed within 30 calendar days after the date of submission.

1.10.1 Government Reviewed Design

The Government will review design submittals for conformance with the technical requirements of the Solicitation. Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) covers the design submittal and review process in detail, including any review periods specific to the design submittals. Government review is required for variations from the completed design. Review will be only for conformance with the contract requirements. Included are only those construction submittals for which the DOR's design documents do not include enough detail to ascertain contract compliance. The Government may, but is not required to, review extensions of design such as structural steel or reinforcement shop drawings.

1.11 GOVERNMENT APPROVING AUTHORITY

When the approving authority is the Contracting Officer, the Government will:

- a. Note the date on which the submittal was received.
- b. Review submittals for approval within the scheduling period specified and only for conformance with project design concepts and compliance with contract documents.
- c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with comments and markings appropriate for the action indicated.

Upon completion of review of submittals requiring Government approval, stamp and date submittals. One electronic copy of the submittal will be retained by the Contracting Officer and one electronic copy of the submittal will be returned to the Contractor. If the Government performs a conformance review of other Designer of Record approved submittals, the submittals will be identified and returned, as described above.

1.11.1 Review Notations

Submittals will be returned to the Contractor with the following notations:

- a. Submittals marked "approved" or "accepted" authorize proceeding with the work covered.
- b. Submittals marked "approved as noted" or "approved, except as noted, resubmittal not required," authorize proceeding with the work covered provided that the Contractor takes no exception to the corrections.
- c. Submittals marked "not approved," "disapproved," or "revise and resubmit" indicate incomplete submittal or noncompliance with the contract requirements or design concept. Resubmit with appropriate changes. Do not proceed with work for this item until the resubmittal is approved.
- d. Submittals marked "not reviewed" indicate that the submittal has been previously reviewed and approved, is not required, does not have

evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

- e. Submittals marked "receipt acknowledged" indicate that submittals have been received by the Government. This applies only to "information-only submittals" as previously defined.

1.12 DISAPPROVED SUBMITTALS

Make corrections required by the Contracting Officer. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications, give notice to the Contracting Officer as required under the FAR clause 52.243-4 titled CHANGES. The Contractor is responsible for the dimensions and design of connection details and the construction of work. Failure to point out variations may cause the Government to require rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and resubmit in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.13 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing, and other information are satisfactory. The design, general method of construction, materials, detailing, and other information appear to meet the Solicitation and Accepted Proposal.

Approval or acceptance by the Government for a submittal does not relieve the Contractor of the responsibility for meeting the contract requirements or for any error that may exist, because under the Quality Control (QC) requirements of this contract, the Contractor is responsible for ensuring information contained within each submittal accurately conforms with the requirements of the contract documents.

After submittals have been approved or accepted by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.14 APPROVED SAMPLES

Approval of a sample is only for the characteristics or use named in such approval and is not to be construed to change or modify any contract requirements. Before submitting samples, provide assurance that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.

Match the approved samples for materials and equipment incorporated in the work. If requested, approved samples, including those that may be damaged in testing, will be returned to the Contractor, at its expense, upon completion of the contract. Unapproved samples will also be returned to

the Contractor at its expense, if so requested.

Failure of any materials to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make as that material. The Government reserves the right to disapprove any material or equipment that has previously proved unsatisfactory in service.

Samples of various materials or equipment delivered on the site or in place may be taken by the Contracting Officer for testing. Samples failing to meet contract requirements will automatically void previous approvals. Replace such materials or equipment to meet contract requirements.

1.15 WITHHOLDING OF PAYMENT

No payment for materials incorporated in the work will be made unless all required DOR approvals or required Government approvals have been obtained. No payment will be made for any materials incorporated into the work for any conformance review submittals or information-only submittals found to contain errors or deviations from the Solicitation or Accepted Proposal.

1.16 CERTIFICATION OF SUBMITTAL DATA

Certify the submittal data as follows on Form ENG 4025: "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

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Not Used

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Not Used

-- End of Section --

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 - 3.10.1 Design Drawings
 - 3.10.1.1 Geo-Referenced Data
 - 3.10.2 Design Documentation Report
 - 3.10.3 Specifications
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- 3.11 CORRECTED FINAL DESIGN REQUIREMENTS
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- 3.14 DESIGNER RESPONSIBILITIES DURING CONSTRUCTION

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SECTION 01 33 16.00 10

DESIGN DATA (DESIGN AFTER AWARD)

PART 1 GENERAL

1.1 SUMMARY

After award, develop the accepted proposal into the completed design, as described herein. Use a collaborative, integrated design process for all stages of project delivery with comprehensive performance goals for site development, water, and waste diversion. Ensure incorporation of these goals in project delivery. Consider all stages of the project lifecycle, including material acquisition, construction, and operations and maintenance.

1.2 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 WATER WORKS ASSOCIATION (AWWA)

- | | |
|-----------|---|
| AWWA C600 | (2023) Installation of Ductile-Iron Mains and Their Appurtenances |
| AWWA M41 | (2009; 3rd Ed) Ductile-Iron Pipe and Fittings |

ASTM INTERNATIONAL (ASTM)

- | | |
|------------|---|
| ASTM D422 | (1963; R 2007; E 2014; E 2014)
Particle-Size Analysis of Soils |
| ASTM D1140 | (2017) Standard Test Methods for Determining the Amount of Material Finer than 75- μ m (No. 200) Sieve in Soils by Washing |
| ASTM D1557 | (2012; E 2015) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³) (2700 kN-m/m ³) |
| ASTM D2216 | (2019) Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass |
| ASTM D4318 | (2017; E 2018) Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils |

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

- | | |
|-------------|--|
| ISO 19005-3 | (2012) Document Management -- Electronic |
|-------------|--|

Document File Format for Long-Term
Preservation -- Part 3: Use of ISO 32000-1
with Support for Embedded Files (PDF/A-3)

ISO 32000-1 (2008) Document Management -- Portable
Document Format -- Part 1: PDF 1.7

NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ)

NCDEQ PWS (2022) Rules Governing Public Water
Systems, from the North Carolina
Administrative Code, Title 15A, Subchapter
18C, Sections .0100 through .2200

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT)

NCDOT RSD (2024) Roadway Standard Drawings

NCDOT SSRS (2021) Standard Specifications for Roads
and Structures

TOWN OF WEAVERVILLE, NORTH CAROLINA (WVR-NC)

Weaverville Code (2026) Code of Ordinances Town of
Weaverville, North Carolina

Weaverville Standards (2017; Revision, 2018) Water Department,
Standard Details for Construction

U.S. ARMY CORPS OF ENGINEERS (USACE)

ECB 2023-9 (2023; Revision 1, 2025) Civil Works
Design Milestone Checklists

EM 385-1-1 (2024) Safety -- Safety and Occupational
Health (SOH) Requirements

EM 1110-1-1002 (2012) Survey Markers and Monumentations

EM 1110-1-2909 (2012) Engineering and Design --
Geospatial Data and Systems

ER 415-1-10 (2012) Construction Contractor Submittal
Procedures

ER 1110-1-8159 (2015) Engineering and Design DRCHECKS

ER 1110-2-1150 (1999) Engineering and Design for Civil
Works Projects

ER 1110-3-12 (2025) Quality Management

ER 1110-345-700 (2026) Design Analysis, Drawings,
Specifications, and Minimum Submittal
Requirements

ER 1165-2-217 (2025) Civil Works Quality and Review
Policy

ERDC/ITL SR-23-1 (2023) A/E/C Graphics Standard, Release 2.2

ERDC/ITL SR-24-3 (2024) A/E/C CAD Standard - Release 6.2

U.S. DEPARTMENT OF DEFENSE (DOD)

UFC 3-201-01 (2022) Civil Engineering

UFC 3-230-01 (2018; Change 3, 2021) Water Storage and
Distribution

UFS 1-300-02 (2025) Unified Facilities Guide
Specifications (UFGS) Format Standard

1.2.1 Manuals, Codes, and Criteria

Adhere to the following design manuals, codes, and criteria for design of the project. Omission of an applicable reference from the list does not relieve the Contractor from adhering to it if required by local, state, or federal regulations. Adhere to the more stringent between stated requirements and industry best practices for design, construction, and quality control testing and reporting. The Designer of Record is responsible for determining the more stringent standards. Determinations between standards must be documented in the design documentation report outlined later in this section.

Design Quality Management and Control:

ER 1110-1-8159

ER 1110-3-12

ER 1165-2-217

Design Submittals:

ECB 2023-9

ER 415-1-10

ER 1110-2-1150, Appendix D

ER 1110-345-700

ERDC/ITL SR-23-1

ERDC/ITL SR-24-3

UFS 1-300-02

Civil Site Engineering:

UFC 3-201-01

UFC 3-230-01

AWWA Standards applicable to Ductile Iron Pipe, including but not limited to AWWA C600 and AWWA M41

North Carolina and Weaverville Specific:

NCDEQ PWS

NCDOT RSD

NCDOT SSRS

Weaverville Code

Weaverville Standards

1.3 DEFINITIONS

1.3.1 Backcheck

The portion of a design review where reviewers check the designers' review comment evaluations and certify that the response is valid, addresses or resolves the concern from the comment, and incorporates the resolution into the next design submittal. For example, if a commenter leaves an initial comment that "fire hydrant spacing does not meet town code requirements, update design to reflect requirement"; after reviewing the code and making changes to the plans, the designer may respond, "concur; per Town code, fire hydrants are required to be no more than XXX feet apart; drawing C-10X, C-10X, and C-10X have been updated to decrease the space between fire hydrants"; after the next design submittal is sent, the reviewer will backcheck that the revision has been incorporated, and after verifying that the requirement is now being met may close the comment and respond, "Updated design meets fire hydrant spacing requirements".

1.3.2 Design Commitment

Decisions during the design phase of the project which represent a narrowing of the scope or the specifying of a design direction that will inform and restrict further design efforts and future decisions. The iterative design process and key design decisions must be thoroughly and clearly documented. Incremental design commitment must be conducted such that compliance with project requirements and design criteria are ensured prior to engaging the Government to affirm compliance. Ensure design commitment is communicated clearly and concisely both within the Design-Build team and with the Government. Formal design commitment will occur at the design reviews defined in this Specification Section.

1.3.3 Designer of Record (DOR)

Professional Registered members of the Contractor's Design-Build team that check, approve, sign, date, and certify, prior to submitting the deliverables to the Government, that the D-B design submittals comply with the contract requirements.

The DORs stamp, sign, and date each design drawing and other design deliverables under their responsible discipline at each design submittal stage. The DOR(s) are responsible for maintaining the integrity of the design and for compliance with the contract requirements through construction and documentation of the as-built condition by coordination, review and approval of extensions of design, material, equipment and other construction submittals, review and approval or disapproval of requested deviations to the accepted design or to the contract, coordination with the Government of the above activities, and by performing other typical

professional design responsibilities.

As the professional with technical responsibility for the design, the Designer of Record must maintain the authority to direct design decisions that are in the best interest of the Government from a quality perspective. The Designer of Record cannot be directed to compromise their professional ethics for the project.

1.3.4 Standard of Care

The professional quality and level of detail to which Contract deliverables are held, this includes expectations for preliminary data collection and the appropriateness of certain assumptions that are based on project complexity and Government expectations for the project and its deliverables. A standard of care that would be considered the minimally accepted standard for the industry is not considered appropriate for this work. The Design-Build team will be held to average industry standards at a minimum unless more stringent requirements are defined further in the Contract Documents. The Design-Build team will also be held to all applicable Federal, State, and Local regulations and criteria whether referenced in the Contract Documents or not.

1.3.5 USACE CAD/BIM Technology Center

The USACE CAD/BIM Technology Center hosts all standard content for USACE. This content can be accessed through the CAD/BIM Technology Center website, <https://cadbimcenter.erdcdren.mil/>.

1.4 ORDER OF PRECEDENCE

In the event of a conflict or inconsistency between any of the requirements within the Contract, precedence is applied:

- a. Any portions of the accepted proposal which both conform to and exceed the requirements of the solicitation.
- b. The provisions of the solicitation.
- c. All other provisions of the accepted proposal.
- d. Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, and equipment installation drawings. These are "deliverables" under the contract are not part of the contract itself. Design products must conform to all provisions of the contract, in the order of precedence.

1.5 PRECONSTRUCTION ACTIVITIES

1.5.1 Design Quality Control Plan

Submit a Design Quality Control Plan in accordance with Section 01 45 00 QUALITY CONTROL before design may proceed.

1.5.2 Meetings and Conferences

1.5.2.1 Post Award Conference

After Award of the contract but prior to Notice to Proceed (NTP) or commencement of any design or construction work, the Contractor shall meet

with the Contracting Officer at a Post-Award Conference. The purpose of the conference is to acquaint the Contractor with the United States Army Corps of Engineers administrative policy, to give emphasis to certain contract requirements considered unique or distinctive and to introduce personnel who will be representing the Contractor and the USACE Resident Office. The Post Award Conference attempts to address significant elements of administering the contract in sufficient detail to permit all parties to fully understand what is expected of them; to reach an understanding of the scope and conditions of the work; and to outline the authorities of all personnel involved in the work. A comprehensive conference does much to minimize many misunderstandings that might otherwise subsequently occur and facilitates the performance of the work. Major subcontractors who will engage in the work shall also attend. The Government will set the date and location for the Post Award Conference, establish the agenda, and provide meeting minutes. The Contractor should expect the Post Award Conference to take no less than 4 hours and no more than 8 hours.

The Government will conduct the Post Award Conference virtually, as soon as possible after Contract award, coordinated with issuance of the notice to proceed (NTP). Participation by the Contractor and major subcontractor representatives is mandatory. All designers need not attend this first meeting. The government will provide an agenda, meeting goals, meeting place, and meeting time to participants prior to the meeting.

As a minimum the following will be addressed during the conference: determination and introduction of contact person and their authorities; contract administration requirements; discussion of expected project progress processes; and coordination of subsequent meeting.

- a. The government will introduce the Government project delivery team members, facility users, facility command representatives, and installation representatives.
- b. Introduce key personal, major subcontractors and other needed staff.
- c. Define expectations and duties of each participant.
- d. Develop a meeting roster with complete contact information including name, office, project role, phone, mailing and physical address, and e-mail address for distribution to all participants. Also, provide minutes of the meeting to all participants.

1.5.2.2 Initial Design Conference

Within 14 day after acceptance of the Design Quality Control Plan, conduct the initial design conference also called a "Design Charette", and provide a record of the meeting. All Designers of Record and representatives from each phase of the project must participate in the conference. The primary purpose of the meeting is to make sure any needs are assigned and due dates established, as well as points of contact identified. Schedule and conduct the initial design conference at the project location in the town of Weaverville, NC, prior to initiation of significant preliminary design development, although it is recommended that the partnering process be initiated at the time of or before the initial design conference. Work with the Contracting Officer to coordinate a meeting room with the Town. Limit any design work conducted after award and prior to this conference; all design work during this time is performed at the Contractor's own risk.

Provide an agenda, as well as meeting time and goals, to the Contracting

Officer at least 10 days prior to the meeting. Conference goals shall include production of the following items prior to adjourning the meeting to assure all participants agree with the Contractor's intended design direction:

- a. Document outlining investigations and analyses that must be completed prior to or concurrent with design work beginning, as well as describing permitting that will likely be required for the project and probable timelines for obtaining said permits.
- b. Marked-up plan or drawing that displays the proposed alignment along with clarifications issued during the conference.
- c. Document conveying a clear list of action items for team members, specific features of work that may require additional coordination with the Government.

Prepare meeting minutes, including drawings developed during the meeting, in Word or equivalent format within 14 days after the initial design conference. Provide minutes to all conference participants by e-mail. Additionally, include meeting minutes in the Design Documentation Report for record.

1.5.2.3 Pre-Construction Conference

Before starting any construction activities, jointly conduct an administrative conference with the Government to discuss any outstanding requirements and to review local installation requirements. It is possible there will be multiple Pre-Construction Conferences based on the configuration of the design packages. Provide minutes of the meeting(s) to all participants.

1.6 SUBMITTALS

Each submittal includes an associated approval level designation as defined in the following table:

Approval Level Designation	Definition
G	Government approval
no designation	for information only
D	Designer of Record approval
C	Government Conformance Review of Design
R	Designer of Record Approval and Government Conformance Review
A	Designer of Record Approval and Government Approval

Refer to ER 415-1-10 and Specification Section 01 33 00 SUBMITTAL PROCEDURES for descriptions of each designation. When used, a designation following the approval level 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

Initial Design Conference

DCM Procedures; G

Data Management Plan; G

SD-05 Design Data

Interim Design Submittal; R

Review Conference Documentation

Final Design Submittal; R

Corrected Final Design Submittal; C

Design Complete Documents; C

1.7 DELIVERY, STORAGE, AND HANDLING

1.7.1 Electronic Design Submittal

Provide electronic files for each submittal required as indicated in Section 01 33 00 SUBMITTAL PROCEDURES .

1.7.1.1 Malicious Content

Scan all electronic files for malicious viruses using commercially available scanning program that is routinely updated to identify and remove current virus threats.

1.7.2 CAD File Packaging

Execute the following actions for all design drawing and modeling files:

1.7.2.1 Autodesk Civil3D

- a. Use command "PURGE" to remove unused blocks, layers, styles, and other elements from the file.
- b. Use command "AUDIT" to detect and remove errors from the file.
- c. Use command "COMPRESS" to reduce file size for easier transfer.

1.7.3 PDF File Packaging

Utilize PDF file format in accordance with ISO 32000-1 and ISO 19005-3. Provide files from original sources, text-searchable, and saved in "Standard" (uncompressed) resolution whenever possible.

1.7.3.1 Bookmarking

- a. Bookmark drawing submittal PDF sets to include one Parent Bookmark per Discipline and one Child Bookmark per sheet within each Discipline. Format Parent Bookmarks as "Discipline" (e.g. Architectural). Format Child Bookmarks as "Sheet ID Sheet Title" (e.g. A-101 First Floor Plan).
- b. Bookmark specification submittal PDF sets using the SpecsIntact Print

Processing PDF Print/Publish feature, combining processed sections into one PDF document. Insert the Submittal Register into the file where specified by Section 01 33 00 SUBMITTAL PROCEDURES and bookmark.

- c. Bookmark design analysis and calculation submittal PDF sets to include one Parent Bookmark per design analysis section and one Child Bookmark per major paragraph per section. Format Parent Bookmarks as "Section" (e.g. Architectural). Format Child Bookmarks as "major paragraph designation Sheet Title" (e.g. 2.1 Primary Facility Functions).

1.7.4 Hardcopy Design Submittal

Design submittals may be required in electronic and hardcopy format for this project. Print hard copy submittals directly from the electronically packaged PDF files. Provide quantities and sizes as indicated in Section 01 33 00 SUBMITTAL REQUIREMENTS.

The Designer(s) of Record stamps and signs the original full size hard copy sheets as Released For Construction. Provide distribution from this set.

PART 2 PRODUCTS

2.1 GOVERNMENT FURNISHED MATERIALS

The Government may provide CAD files as government furnished materials (GFM) for use in design development. Government provided CAD files are presented as for information only. If the Contractor uses them as the basis for their own CAD files, substantive rework may be required to bring them into compliance for the design. Develop and maintain the information and level of detail contained in the GFM in the Project design, as required by this Contract.

Prepare CAD files in the formats prescribed as a basis for design, design drawings, and interim design submittals. Maintain the same or greater level of detail, properties, and functionality as is prescribed in this specification. Utilize the CAD templates retrieved from the USACE CAD/BIM Technology Center. At a minimum, the CAD files developed for this project must utilize the layers (including but not limited to color, line weights, line styles, and screening), blocks, and styles must be those dictated in ERDC/ITL SR-23-1, ERDC/ITL SR-24-3, and the templates from the CAD/BIM Technology Center. The DOR is encouraged to use engineering judgment in creating a neat, clear, and complete set of plans for the design submittals and minor deviations from the USACE CAD standards may be allowed by the Contracting Officer to that end.

2.1.1 GFM Handover

The Government will provide the GFM at no later than the initial design conference.

2.1.2 GFM File Formats

GFM are provided in the following file formats:

2.1.2.1 Government Furnished CAD

The GFM includes Autodesk Civil 3D 2023 .DWG files.

2.1.2.2 Government Furnished GIS

The Town of Weaverville's most current GIS Database may be furnished, including features and attributes relating to the current project, upon request after award. The Town reserves the right to provide or refuse provision of GIS data at the discretion of the Town Manager. Handling and protection of the data is subject to Town requirements. Documentation of the required attributes and schema definitions will be provided with the GIS Template.

GIS source data and product data remain the property of the US Government and the Town of Weaverville. Submit a data management plan before the initial design conference explaining and demonstrating the company's process for handling all geospatial data, including but not limited to geometry, attributes, metadata, topologies, and relational database schemas and operations used in association with this contract. Obtain further information about security and potential non-disclosure requirements from the Contracting Officer. The Government retains the authority to impose final disposition requirements for the GIS data based on Federal, State, or local requirements.

2.1.3 Modeling Completion and Quality

The Government makes no guarantee that the GIS data, CAD files, and utility data provide the level of completeness or quality required for a submittal. Develop or update files and data to completely and correctly represent the as-built conditions of the facility and the site.

However, use of any Government Furnished CAD files for creation of contract submittals is at the Contractor's own risk. Use of GIS data for precise location of utilities in design submittals is prohibited. Utility location shown in the design drawings must be based on accurately surveyed points. See DISCIPLINE DESIGN REQUIREMENTS below for surveying and civil requirements. Any quality control issues discovered in the GFM do not absolve the Contractor from submitting contract compliant deliverables as described in this and other specifications.

2.1.4 Data Loss, Corruption, and Error

Use of GFM files is at the Contractor's risk. Verify data integrity upon receipt and request a replacement if necessary.

Any adjustment of file structure, format, or software version required to make GFM compatible with computer systems and/or software is the responsibility of the Contractor.

2.2 MODELING DOCUMENTS

Provide all of the following documents with each design submittal.

2.2.1 Submitted Files List

Provide list of all submitted electronic files including a description, directory, and file name for each file submitted. Identify which files have been produced from the Model and Facility Data. For all Sheet files, include a list of the sheet titles and sheet numbers.

2.2.2 Modeling Electronic Files

Include all Modeling files associated with the contract scope of work.

2.2.2.1 Quality Control (QC) Reports

As a minimum, include the following reports:

2.2.2.1.1 Graphics Standards Checks and Report

Provide QC checks on all graphic deliverables demonstrating that the fonts, dimensions, symbology and other construction document formatting are compliant with the requirements of this specification. Identify and report non-compliant content.

2.2.2.1.2 CAD Standards Checks and Report

Provide QC checks on CAD Output demonstrating that filenames, sheet borders, layer/level names, and symbology are compliant with the requirements of this specification. Identify and report non-compliant content.

2.2.3 Modeling Re-Submittals

If components of a Modeling submittal are rejected, provide the following for each Modeling Re-Submittal, in addition to re-submittal information required by Section 01 33 00 SUBMITTAL PROCEDURES:

- a. Re-submit all components required under paragraph MODELING PACKAGE, including a new Modeling Checklist and updated content in response to Government comments.
- b. Provide a copy of all Government review comments.
- c. Provide a response to each Government review comment for back check.

2.3 DESIGN DRAWINGS

From CAD files, produce design drawings that describe the scope of the Contract for all required submittals including all interim and final deliverables.

2.3.1 Electronic Drawing Files

Provide electronic drawing files in PDF format for each project drawing in the design set.

2.3.2 Drawing Index

Provide an index of drawings sheet as part of the drawing set, and an electronic table of all drawings submitted. Include the electronic file name, the sheet reference number, the sheet number, and the sheet title containing the data for each drawing.

2.3.3 Shop Drawings Used as Design Drawings

Design drawings may be prepared similar to shop drawings to minimize construction submittals after the Design Complete Submittals. Prepare and submit with the design drawings, appropriate connection, fabrication,

layout, and product specific drawings. Government concurrence of an interim design submittal or acceptance of a final design submittal does not mean the Government is approving specific products used or shop drawings incorporated in the design submittal. It is the responsibility of the Contractor to approve use of specific products and other construction submittals outlined in the Technical Specifications, unless Government concurrence or acceptance is requested by the Government for a specific construction submittal.

2.3.3.1 Drawing Format For Shop Drawings Used as Design Drawings

Use the Contractor-originated drawings as the basis for the record drawings. Conform shop drawings included as design documents with the same drawing requirements such as drawing format, sheet size, layering, lettering, and title block used in design drawings.

2.3.3.2 Identification of Shop Drawings Used as Design Drawings

Indicate which shop drawings are being submitted as design drawings in the transmittal letter.

2.3.4 Seal on Documents

Sign, date and seal all Contractor-originated design drawings by the registered engineer of the respective discipline, except for the interim design submittal. The designer of record and design quality control manager must date and digitally sign the interim design submittal to certify that the version of the files sent to the Government are the versions that have gone through the appropriate reviews, however the designer of record is not required to affix their seal to the interim design submittal. Application of the electronic seal and signature accepts responsibility for the work shown thereon.

2.4 SPECIFICATIONS

Provide a Contractor-originated design specification that, in conjunction with the drawings, demonstrates compliance with materials, equipment, execution, and field quality control requirements of the RFP and accepted proposal. Every feature of work must be addressed in the specification, either in its own section, in a section that covers multiple related features, or in an approved consolidation as defined in subpart "Interim Specifications". Every feature of work must include a verifiable and replicable quality control process that the Contractor and Government may use to ensure quality.

2.4.1 Specifications Format

Utilize the Unified Facility Guide Specifications (UFGS) current at the time of Contract award. Process the specifications with the SpecsIntact software package.

- a. Edit and expand the appropriate specifications to ensure that all project design requirements, current code requirements, and regulatory requirements are met. Design specifications may be prepared that include manufacturer specific data and catalog cuts in lieu of non-proprietary, descriptive specifications. Clearly identify, where appropriate, specific products chosen to meet the contract requirements (i.e., manufacturers' brand names and model numbers or similar product information).

- b. Note that the UFGS are based on design-bid-build contracting and will require editing to apply to a design-build project. For instance, they assume that the Government will approve most submittals, whereas in design-build, the DOR has that action, unless this solicitation requires Government approval for specific submittals. As such, unless specifically instructed by the Government otherwise, UFGS designations for "Government Approval, G" must be changed to "Designer of Record Approval, D."
- c. Organize project sections not based on UFGS in accordance with CSI MasterFormat and UFS 1-300-02.
- d. When publishing the Specification package for review include the following format options to ensure a consistent package that meets Government formatting expectations: the package must be published with both a master table of contents and section tables of contents, both "without scope"; only include English units of measure; include section dates, color, and revisions in the interim design and final design submittals, but not in the corrected final nor the issued for construction submittals; restart page numbering for each section and insert blank pages for double-sided printing; the header must include the. The preceding format options are all standard toggles within the SpecsIntact software 'Print/Publish' command.

2.4.2 Identification of Manufacturer's Product Data Used as Specifications.

Provide complete and legible catalog cut sheets, product data, installation instructions, operation and maintenance instructions, warranty, and certifications for products and equipment for which final material and equipment choices have been made. Indicate, by prominent notation, each product that is being submitted including optional manufacturer's features, and indicate where the product data shows compliance with the Contract requirements.

2.4.3 Specifications Packaging

Provide specifications to include the following:

- a. Cover sheet and project table of contents.
- b. Specification sections, each section with a table of contents.
- c. Forms that will be used during the construction phase of the project, and attachments other than manufacturer's product data that is necessary for the construction of the project.
- d. Manufacturer's Product Data. If providing as attachments to the applicable specification section, incorporate as attachment reference within the section and section table of contents.

2.4.4 Specification Deliverable

Submit a bundled specification package in PDF format for each design package. As a minimum, bookmark each specification section in the bundled package. Also, submit the source files, in the processing system format, used to create the PDF.

2.5 DESIGN DOCUMENTATION REPORT

Prepare, organize, and present a design documentation report that will document the general parameters, functional and technical requirements, design objectives, design assumptions, and provides design calculations applicable to a project's design. The design documentation report will also include a record of the Contractor's quality reviews including comments, comment evaluations, and backchecks. Organize the design analysis into three parts; Part 1 - General Description; Part 2 - Design Requirements and Provisions; and Part 3 - O&M Provisions. Appendices may be utilized to facilitate good organization and clear and concise communication of information in the main body of the report.

The design documentation report is not a construction document. All designs, diagrams, details, and other technical information necessary for construction must be included in the design drawings and specifications.

Refer to ER 1110-2-1150 Appendix D for content and format guidance. Also refer to ER 1110-345-700 where requirements for the "Design Analysis" will be used for what is expected in the design documentation report.

The design documentation report states the purpose, authorization, applicable criteria and the project description for the project, and provides a summary of the factors influencing the choice of the civil, environmental, HTRW, and sustainable design features used in the project along with an indication of how the initial costs and life cycle costs were factored into final selections. Provide clear, concise, and logical reasoning for design decisions made for the project, with clear references to codes, engineering calculations and analyses, and the Government's Request for Proposal. This reasoning must provide a justifiable defense for the full design. In the final design documentation report clearly and succinctly include:

- a. An introductory description of the project concepts that addresses the salient points of the design
- b. An orderly and comprehensive documentation of criteria and rationale for system selection, supported by life cycle cost analysis.
- c. The identification of any necessary licenses and permits that are anticipated to be required as a part of the design and/or construction process.
- d. Identify all applicable codes and criteria and highlight specific requirements within these codes and criteria for critical issues in the utility design.
- e. Required calculations as specified and as needed to support the design.
- f. Construction quantities estimate and the associated methods of deriving the values.

2.5.1 Design Requirements and Provisions

Include subparts for each major design discipline and basic project design requirements for each discipline that justify and validate design decisions.

2.5.1.1 Civil

Include soil analysis and survey data, site design, site improvements, paving, grading and drainage, water, utilities systems analysis and design.

2.5.1.2 Environmental

Include an impact assessment checklist covering air, water and noise effects from the project and construction; worker health and safety; transportation and disposal regulation requirements; special wildlife, plant, and endangered species considerations; pollution prevention control requirements; and design measures to be implemented (i.e., construction site sediment and erosion control requirements by Federal, state and local governments); and hazardous material management, natural and cultural resources, and environmental permits. Also include a copy of the project's Environmental Site Assessment phase one report, and a copy of the phase two report if a phase two is determined to be necessary.

2.5.2 Operations and Maintenance (O&M) Provisions

Identify design provisions made to enhance and to reduce the cost of operating and maintaining the utility when completed, including but not limited to valves, fittings, and hydrants. Identify any special safety considerations or occupational health related considerations that may affect operation and maintenance activities as a result of the final design.

2.5.3 Design Documentation Report Packaging

2.5.3.1 Assembly and Identification

Assemble design analysis in a single volume with a table of contents if possible. Include a cover page in the basis of design for each discipline indicating the project title and locations, contract number, table of contents, and tabbed separations or bookmarks for quick reference. At a minimum tab or bookmark for each discipline.

2.5.4 Calculations

Place the signature and seal of the designer of record responsible for the work on the cover page of the calculations for the respective design discipline.

2.5.5 Engineering Considerations and Instructions for Field Personnel (ECIFP)

As an addendum to the Design Documentation Report, prepare and submit an ECIFP. The purpose of the ECIFP is to provide construction personnel, with a particular focus on Quality Assurance inspectors, with a concise summary of the features of work engineering views as complex or critical to construction. Use this document for the DOR to communicate areas of heightened risk to construction managers and inspectors. To the greatest extent practical use non-technical and easy to understand language in the ECIFP. Examples of feature to include, but are not limited to, materials or products used in the design that have peculiar installation methods, describing particular restrictions related to an acquired permit, or defining particular testing methods for critical features of work. Structure the document to consolidate specific features of work for easy reference by field personnel. See Appendix A attached to the solicitation for ECIFP content requirements and best practices.

PART 3 EXECUTION

3.1 DESIGN SUBMITTALS

Include all deliverable products and associated support documents described in Part 2 of this specification with each design submittal.

3.2 DESIGN REVIEW

The Contractor retains responsibility for the quality of the design and construction of the project. As such, the Contractor must conduct all necessary reviews to ensure the highest level of quality. Quality management must conform to ER 1110-3-12 and ER 1165-2-217. At a minimum this will include a Design Quality Control Review, an Independent Technical Review, and review of construction submittals. Government conformance reviews for each design submittal only occur after the Contractor's internal quality reviews of that submittal have been successfully completed.

Each design review must utilize DrChecks for comment tracking, refer to subpart 3.6 DESIGN CONFIGURATION MANAGEMENT (DCM) later in this Section.

3.2.1 Design Quality Control Review

Also referred to as a "Detailed Quality Check Review," this is a design review performed by the Contractor's design quality control team approved with the Design Quality Control Plan. Demonstrate a thorough quality review through comments and comment evaluations that provide meaningful improvement to the design package. The primary intent of the design quality control review is to: ensure technical correctness of the design, estimated quantities, and calculations; validate design assumptions and their risks; ensure conformance of the design and design submittals to the Government's request for proposal and all applicable codes; and ensure design submittals meet the highest professional standards for visual presentation, cohesive communication and agreement among design documents, and editorial correctness for grammar and spelling.

Incorporate constructability, Contract administration, environmental considerations, and operability of the design as part of the quality control review.

3.2.2 Independent Technical Review (ITR) - FOR INFORMATION ONLY

Please note, for the Weaverville project an ITR will not be required due to the limited size and complexity of the project scope. The following information regarding the ITR is included for information only as a possible requirement for future MATOC Task Orders. The Government will direct in each Task Order Request for Proposal (RFP) whether or not an ITR is required.

This is a design review, distinct from the Design Quality Control Review, performed by the Contractor's ITR team approved with the Design Quality Control Plan, as defined in Specification Section 01 45 00 QUALITY CONTROL. ITR reviewers are senior-level personnel with appropriate experience for the project being reviewed who are not involved in the day-to-day design or management of the project. The ITR is expected to ensure the Contractor's quality control review was performed completely and correctly. ITR reviewers must concur with the assumptions made for the design, as well as validate design decisions. The ITR reviewers are responsible for checking that there is enough information in the design drawings and specifications

to construct the project, and enough information, calculations, and rationale in the design documentation report to justify the design and defend design decisions.

The ITR is to be performed for any design submittal, including but not limited to the interim design, the final design, and major changes during construction. The timing of the reviews must be included as part of the Design Quality Control Plan outlined in Section 01 45 00 QUALITY CONTROL. The Contracting Officer may approve concurrent Contractor reviews for the interim design submittal, but the ITR for the final design must occur after the Design Quality Control Review is completed and certified.

Designate the ITR reviewer responsible for the controlling discipline for the project as the lead ITR reviewer. The lead ITR reviewer will be responsible for ensuring and verifying the integrity and independence of the ITR, and will ensure comments provided as part of the ITR are appropriate and do not repeat or contradict other comments. The lead ITR reviewer will also be the individual responsible for signing and stamping the ITR review certification required as part of the Design Quality Control Plan outlined in Specification Section 01 45 00 QUALITY CONTROL. Once completed, the signed and stamped ITR review certification must be included in the design documentation report.

3.2.3 Government Conformance Review

This is a check performed by the Government of the design submittals to determine the adequacy of the Contractor's reviews and compliance with the Government's request for proposal and referenced codes and standards. The Government is not responsible for ensuring the technical correctness of the design, and concurrence or acceptance of the design submittal does not represent Government validation of assumptions made nor assurance of technical correctness. Government concurrence or acceptance does not transfer any of the technical risk of the project to the Government. Government conformance reviews will occur for each design submittal, including the interim, final, and corrected final. The corrected final review will only be a backcheck review of previous comments unless new or altered material requires further commenting.

3.3 DESIGN SUBMITTALS PHASES

The stages of design submittals described below define requirements with respect to process and content. Determine how to best plan and execute the design and review process for the project, within the parameters listed below. Provide one interim design submittal, one final design submittal before production of a design package may proceed, and at least one Design Complete submittal that documents the accepted design.

3.3.1 Interim Design Submittal

Submit a single interim design for review, representing a complete package with all design disciplines. See paragraph "Interim Design Document Requirements" for additional information related to the Interim Design Submittal. This is not necessarily a hold point for the design process; the Contractor may designate the interim design submittal(s) as a snapshot and proceed with design development at its own risk. The Contractor must evaluate all interim design submittal comments prior to the submission of the final design package. The Final Design Submission will serve as a backcheck submittal for the interim design.

3.3.1.1 Interim Design Development Management

Maintain a fully functional configuration management system as described herein to track design revisions, regardless of whether or not there is a need for a formal interim design development review.

3.3.1.2 Fast-Tracking

Fast-tracking is not anticipated to be applicable for this project. Develop the project schedule and budget without fast-tracking.

If the Contractor determines that there can be substantial time or cost savings without additional burden on the Government by implementing a fast-tracked design, the Contractor may recommend it to the Government as part of the initial design conference or before. Provide a detailed plan for implementation of the fast-tracking including specific design submittal schedules, justification for how it will improve project delivery, and how it will be accomplished without additional burden on the Government. The Contracting Officer will make the final determination if fast-tracking is in the best interest of the Government.

Identify the project elements approved to be fast-tracked in the Design Quality Control Plan.

3.3.1.3 Over-the-Shoulder Progress Review

To facilitate a streamlined design-build process, the Government and the Contractor may agree to one-on-one review or small group reviews, on-line, or at the Contractor's design offices or other agreed location, when practicable to the parties. Coordinate such reviews to minimize or eliminate disruptions to the design process. Due to limits on project funding, utilize the maximum virtual teaming methods. Facilitate these reviews with electronic format data transfer and collaboration. Through the partnering process, find ways to facilitate the quality assurance process and to facilitate meeting or bettering the design-build schedule.

3.3.2 Final Design Submissions

After concurrence is given and comments have been provided by the Government for the interim design package, revise the design package to incorporate the comments generated and resolved, perform and document a final design review which includes a backcheck of interim review comments and submit the final design package. Only submit a final design package to the Government that the Contractor, with the concurrence of the designer of record, believes is ready for release to construction. If obvious quality issues are present in the final design, the Government will reject the submittal and require the Contractor to perform another quality control review and ITR. The Government may also consider requiring the replacement of the design quality control manager as defined in Specification Section 01 45 00 QUALITY CONTROL.

3.3.3 Design Complete Submittals

After the final design submission and review conference for the design package, revise the design package to incorporate the comments generated and resolved in the final review conference. Produce a corrected final design package for the final backcheck. Perform and document a backcheck review to ensure all prior comments have been appropriately addressed and submit the final, design complete documents for final Government backcheck

and acceptance of the design package. If the Government concurs that the corrected final design package satisfactorily addresses all prior comments, this submittal is then accepted as the released for construction documents.

3.4 DESIGN PLATFORM AND FILE FORMATS

Design the project using the systems and platforms defined below:

3.4.1 CAD

3.4.1.1 Native CAD Authoring Content

All content produced through CAD authoring software must be compliant with ERDC/ITL SR-23-1 and ERDC/ITL SR-24-3. Autodesk AutoCAD Civil 3D 2023 templates are available for download from the CAD/BIM Technology Center website as part of the A/E/C Work Structure. Provide the CAD submittals as fully operable, compatible, and editable within Civil 3D 2023.

3.4.1.2 CAD Coordinate System

- a. Coordinate System: State Plane
- b. Zone (for State Plane or UTM): North Carolina
- c. Horizontal Units of Measure: US Survey Feet
- d. Vertical Units of Measure: Feet
- e. Horizontal Datum: NAD 83/2011
- f. Vertical Datum: NAVD 88

NOTE: Alternate datum may be proposed by the Contractor for approval by the Contracting Officer. The datum used must be consistent for all positional data throughout the project. Any data stored or transmitted for the project must have the coordinate system and datum utilized clearly indicated.

3.5 MODELING REQUIREMENTS

3.5.1 CAD Modeling Requirements

3.5.1.1 Graphics and Layer Standards

- a. All content produced with object/element based CAD authoring software platforms must be compliant with ERDC/ITL SR-23-1.
- b. All content produced with layer-centric CAD authoring software must be compliant with ERDC/ITL SR-24-3 and ERDC/ITL SR-23-1.

3.5.2 GIS

3.5.2.1 Minimum Modeling Requirements

Provide final geo-referenced GIS database of the new water lines and features out to the project extents compliant with the format required by the Town of Weaverville.

Collect GIS geo-referenced data pertaining to location and attribute data of subsurface utilities obtained at the time of project site excavation. Include the collection of elevation (Z) values in all data collection for underground utilities.

3.5.2.2 GIS Coordinate System

Coordinate system must be consistent with the system currently utilized by the town for their GIS data.

3.5.3 CAD

All content produced through layer-centric CAD authoring software outside of any object/element based BIM or CIM platform must be compliant with ERDC/ITL SR-24-3 and ERDC/ITL SR-23-1.

Autodesk AutoCAD Template Files Most recent version at the time of Contract award. Download form the CAD/BIM Technology Center website as part of the A/E/C Work Structure (<https://cadbimcenter.erdcdren.mil/Default.aspx>).

3.6 DESIGN CONFIGURATION MANAGEMENT (DCM)

3.6.1 Procedures

Develop and maintain effective, DCM procedures to control and track all revisions to the design documents subsequent to the Interim Design Submission and continuing through submission of the As-Built documents. After the final design is accepted, this process provides control of and documents revisions to the accepted design (See Special Contract Requirement: Deviating From the Accepted Design). Submit the DCM procedures within the Design Quality Control Plan.

- a. Include authorities and concurrences in the DCM system to authorize revisions, including documentation as to why the revision is required.
- b. The Government's Design Review and Checking System (DrChecks) must be used for all design reviews, including the Contractor's Design Quality Control Review, the Contractor's Independent Technical Review, and the Government's Design Conformance Review, as well as any conformance reviews for construction.
- c. Make the DCM data available to the Government at all times.
- d. Updated versions of each document, including, but not limited to, each design submittal, must include a document listing specific changes made in a concise format that defines the location of the change within the package or document, whether the change was an addition, revision, or deletion, and the specific description of the change made.

Once comments are entered into DrChecks, designers and reviewers must strive to resolve comments outside of the DrChecks comment management software. It is recommended to discuss and resolve comments in-person or over conference calls to ensure efficient and clear communication between the reviewer and designers. Once a resolution to the comment is agreed upon, input the comment evaluation into DrChecks. If persistent disagreements remain, document these differences and the Designer of Record's resolution in DrChecks. Discuss the comment and resolution in the design documentation report with a clear assessment of the risks.

The Contractor may request the use of different commenting procedures than those outlined in this specification. With the request the Contractor must thoroughly outline how the alternative procedures will be functionally equivalent to DrChecks and how use of the alternate system will benefit the Government. The Contracting Officer retains the right to reject alternative systems regardless of the justifications used if they believe use of DrChecks remains in the best interest of the Government. A system that does not maintain functional equivalence to DrChecks or does not present a meaningful benefit to the Government are unlikely to be accepted.

3.6.2 Tracking Design Review Comments

Use the DrChecks Design Review and Checking System to initiate, respond to, resolve and track all design review comments.

The Government will set up the project in DrChecks. Throughout the design process parties enter, track, and back-check comments using the DrChecks system. Designers of Record annotate comments timely and specifically to indicate exactly the action to be taken or why the action is not required. Prior to the next design review for the package, the DORs annotate those comments that require DOR action or design revision to show how and where it has been addressed in the design documents. These procedures are part of the required design configuration management plan. Flag comments considered critical by the conference participants.

3.6.2.1 DrChecks Initial Account Set-Up

Identify a contact person within the office to act as the administrator for all Contractor personnel, including subcontractors, that will be accessing the PROJNET Dr Checks system. Through the Contracting Officer, coordinate with the Project Manager and the District PROJNET administrator for system access, system instruction and comment process instructions.

PROJNET contains an introductory file and other tutorial material that can be accessed once user accounts have been established. Upon log in, select Portals/User Documentation.

3.6.2.2 DrChecks Review Comments

Annotate and resolve all comments prior to the next design quality review or design submittal. Include the DrChecks comments and responses in the design documentation report for record in the next design submittal for the package.

- a. Upon review of comments prior to the design review conference, the DOR(s) evaluate the comments. Include exactly what action will be taken or why action is not required.
- b. After the review conference, the DOR(s) formally respond to each applicable comment in DrChecks a second time, prior to the next submittal, clearly indicating what action was taken and what drawing/spec/report section changed. Designers of Record are encouraged to directly contact reviewers to discuss and agree to the formal comment responses rather than relying only on DrChecks and review meetings to discuss comments. With the next design submittal, reviewers will back-check answers to the comments against the new submittal, in addition to reviewing additional design work.
- c. Clearly annotate in DrChecks those comments that require effort outside

the requirements of the Contract. The Contracting Officer will make a determination if the comment is a departure from the authorized scope and if it is, whether the comment will result in a Contract modification or result in the comment being withdrawn by the Government.

Do not proceed with work outside the contract until a modification to the contract is properly executed.

3.7 DISCIPLINE DESIGN REQUIREMENTS

Provide interim design deliverables that include drawings, specifications, and design documentation report for the full project design. Only provide design deliverables after a design quality control review and an independent technical review have been completed and the package is considered ready for a Government conformance review. Design deliverables that do not meet minimum design maturity requirements or have not demonstrated a sufficient level of quality control review will be returned to the Contractor for further development. If the design package is returned for failing to meet minimum requirements, the time allowed for the Government to review the package is 30 days from the date of receipt of the resubmission. Since the Government expects to receive an appropriately reviewed package, include the following for each design submittal.

- a. Drawings: Include comments from any previous design conferences incorporated into the documents to provide an interim design for the feature of work submitted.
- b. Specifications: Provide specifications to ensure that all project design features are addressed, meeting current code requirements, and regulatory requirements. Use the track changes feature (redlines) to facilitate review of additions and deletions.
- c. Design Documentation Report: Prepare and present design documentation report under the authority of the DOR, with calculations necessary to substantiate and support all design documents submitted. Address design substantiation required by the applicable codes and references. Identify specific code requirements related to the project and how they were accounted for in the design.

3.7.1 Geotechnical Considerations

The designer of record is responsible for ensuring geotechnical considerations related to utility replacement are accounted for in the design drawings, specifications, and design documentation report. If this type of work is outside the designer of record's area of expertise, consult with a registered geotechnical engineer before the first interim design submittal to verify geotechnical factors are being appropriately considered. If the designer of record does have competence in geotechnical engineering, this expertise must be demonstrated in the practical experience identified as part of the design quality control plan, defined in Specification Section 01 45 00 QUALITY CONTROL. Geotechnical factors for consideration including, but not limited to, adequate research into the potential for shallow rock deposits and subsurface investigations in identified areas, construction equipment weigh restrictions based on existing pavement, and pavement sections including fill material for trenches based on code requirements.

Prepare further documentation if required by local, State, or Federal regulations as defined in the applicable code.

3.7.1.1 Trench Backfill and Compaction Requirements

Adhere to local, State, and Federal guidance and regulations related to utility trench backfill and compaction, including but not limited to those listed in Weaverville Standards, NCDOT SSRS, and NCDEQ PWS.

3.7.1.2 Minimum Testing Requirements

Include compaction and classification testing in the design specifications with a designation for designer of record approval. Include at minimum, but not limited to, the following tests ASTM D2216, ASTM D1557, ASTM D422, ASTM D1140, and ASTM D4318. At a minimum compaction testing must occur every 200 ft for each lift of material placed. Designer of record may required a higher frequency of testing to ensure compaction requirements are met.

3.7.2 Land Survey

The contractor must land survey the site for accurate design and construction. Pre-Construction / Topographic surveys must be performed to the accuracy of the design need and must produce a minimum 1-foot contour interval. Land survey must identify all existing features which includes, but may not be limited to, roads, sidewalks, utilities above and below ground, catch basins, striping, trees, and other related features. The Land Surveyor shall conduct a diligent search of all easements, rights-of-way, parcel maps, tract maps, records of survey, and property boundary data within the project limits to ensure there are no encroachments from the proposed work. All data must be mapped in accordance with applicable local, state, and federal land surveying statutes and regulations. This data must be displayed on the survey sheets of the project plans and at a minimum, depict metes and bounds, found monuments, and current ownership data. Land survey must be stamped and sealed by a Professional Land Surveyor. Perform land survey in accordance with the reference publications specified, EM 385-1-1, EM 405-1-3, EM-1110-1-1000 EM 1110-1-1002, EM 1110-1-1003, EM 1110-1-1005, and EM 1110-1-2909. Use all available resources and engineering judgment to identify all known and unknown utilities in the area. Utility identification includes, but is not limited to, research as-built drawings, GIS data, facilities maps, coordination with utility purveyors, marking utilities, pot holing, scanning the site with ground penetrating radar (GPR), electromagnetic, or sonic equipment and other related methods.

Survey data must:

- 1) be referenced horizontally to the applicable State Plane Coordinate System, NAD83, using U.S. Survey Feet and vertically to NAVD88, using feet or;
- 2) match the same datum that will be used on the designer's Contract Drawings.

Additionally, provide all CAD files and electronic data in AutoCAD compatible files (.DWG), which include but not limited to .tin, .alg, .eav, .xyz, .xls, (raw data point clouds) and .ASCII or .XML file types used to generate the submitted .dwg electronic drawings such as contours, .tins, plan views, profiles, and cross sections, along with any accompanying field notes (written or electronically collected).

Construction survey layout is to include at minimum establishing and maintaining grade stakes or markings offset from the pipe alignment at every change in grade, bearings, significant features, and on 50-foot

intervals along the alignment.

3.7.2.1 Post-Construction Survey

A final as-built survey shall be in accordance with the requirements listed above in subpart 3.7.2 and be performed after all materials have been placed at the site and have been accepted by the Contracting Officer. The results of this survey are to be used in the preparation of the final as-built drawings and record drawings required in Section 01 78 00 CLOSEOUT SUBMITTALS.

3.7.3 Civil Site and Utilities Design Contents

Include the following in the interim design for the site and utilities. This list is not intended to limit the contractor from providing different or additional information as needed to support the design presented. The design drawings and specifications must be sufficient both for construction and for measuring conformance to Contract requirements.

- a. Pavement design in coordination with the geotechnical investigation report or local guidelines.
- b. Location and vicinity maps
- c. Demolition plan: identify segments of existing pipe and structures, including fire hydrants, to be removed or protected in place. Make a clear distinction between existing pipes to remain in operation and be protected in place, pipes to be removed, and pipes to be abandoned in place.
- d. Layout plan
- e. Horizontal and vertical survey control
- f. Utility Plan-Profile: Provide horizontal control of the pipe alignment which includes, but not limited to at minimum, major features identified with northings and eastings, bearings and distances, and linear dimensions. It must be clear where each feature of work aligns relative to survey control, geographic coordinates and existing conditions. Identify and include located water lines, sanitary sewer lines, force mains, and other subsurface utility features. Indicate station and elevations, change in grades, and invert elevations of all existing utilities crossing the new utilities.
- g. Road profiles, may be the same as the utility profile
- h. Traffic Plan: Identify signage, personal, traffic control devices, and procedures for protecting vehicular and pedestrian traffic and ensuring minimal disruption in traffic flow during construction.
- i. Civil details sheet
- j. Erosion and Sediment Control Plan
- k. Site specific civil calculations

The Contractor holds the responsibility for identifying the locations of existing utilities. Conduct due diligence to research and survey existing

utility locations and depth to ensure adequate separation of the water main from existing utilities and to ensure other existing utilities are not damaged during construction.

3.7.3.1 Specific Civil Design Requirements

Incorporate the following additional requirements into the project design:

- a. Provide and replace fire hydrants required to meet Town fire codes. Each fire hydrant replaced must include three isolation valves, two on the main line on either side of the hydrant tee and one on the hydrant line itself.
- b. At replaced pipe intersections, including tees and crosses, place valves on each segment of pipe leaving the intersection. A new valve may be omitted from a specific segment of pipe leaving an intersection if there is a valve on that same segment of pipe within 50 feet of the pipe intersection.
- c. As defined in Weaverville Code, the Town must be allowed to inspect all pipe placed or hydrants installed for the project prior to backfilling trenches. Communicate the project schedule with the Town through the Contracting Officer to give the Town sufficient advanced notice prior to backfilling activities.
- d. Minimize residential and commercial water supply outages to the greatest extent practical. If outages are required, the maximum allowable outage duration is 24 hours. Water service outages must be planned in advance. Notify the Contracting Officer no less than 10 days prior to a planned outage.

3.8 DESIGN MATURITY

Develop the design and design submittals to the level appropriate for each given submittal review. Use ECB 2023-9 as a general outline for the level of detail required for each design submittal.

3.9 INTERIM DESIGN REQUIREMENTS

One interim design submittal, review and review conference is required for the design package. This will include the design drawings, specifications, and design documentation report. Additional interim design conferences or over-the-shoulder reviews may be scheduled, as needed, to assure continued Government concurrence with the design work. Include the interim submittal review periods and conferences in the Section 01 32 01.00 10 PROJECT SCHEDULE and indicate in periodic schedule updates what part of the design work is at what percentage of completion.

3.9.1 Interim Design Document Requirements

In addition to the requirements outlined for preliminary design and intermediate design in ECB 2023-9, the interim design must meet the following maturity requirements:

3.9.1.1 Interim Design Drawings

Include a draft version of the full plan set which includes all anticipated sheets and shows all required plans, profiles, and details. Finalize the design drawings to the greatest extent practical. At minimum the following

should be included, completed and implemented topographic survey (with all existing utilities identified) and the proposed waterline alignment. Additionally, provide callouts, dimensions, and elevations of existing features. Style existing feature annotations with italicized text. When known deficiencies are included in the plans (for instance, if a utility profile was identified in the Contractor's internal quality control review as lacking specific information that will need to be collected from the site but should not affect the overall design), provide a clear indication of where the specific deficiency exists and what actions will be taken to address it. Leaving profiles or details blank or including general notes that are not related to the project without providing this notation may result in the design submittal being rejected for not meeting design maturity requirements.

3.9.1.2 Interim Specifications

Provide a preliminary draft of the specification package. Specifications must include all sections required for the project, edited and tailored for site specific conditions. At a minimum the specifications must have appropriate tailoring options selected and some brackets edited to account for project and site specific context and features. Include the preliminary submittal register as defined in Section 01 33 00 SUBMITTAL PROCEDURES.

If the Designer of Record and the construction representative agree that it would be clearer and more effective to consolidate tangentially related specification sections that are mostly not relevant to the project, the designer of record may lay out a consolidation plan including specific elements from the specification section being incorporated into the other such that the relevant information will be accounted for in the section being kept. Include this plan in the design documentation report, and clearly indicate in brackets in the specification section being kept what and where additional information is being incorporated and which specification section it is being taken from. The Government reserves the right to reject the consolidation of specification section if it believes it is not in the best interest of the Government to consolidate. It is recommended that the Contractor seek preliminary concurrence from the Government before pursuing the consolidation of specification sections.

3.9.1.3 Interim Design Documentation Report

Provide clear and concise narrative describing the remaining actions, data collection requirements, and design input necessary to advance to the final design. Clearly document design decisions made during the interim design and any known design decision that remain before the final design. Include a preliminary Engineering Considerations and Instruction for Field Personnel (ECIFP) report for review.

3.9.2 Submission Review

After receipt of an Interim Design submission, the Government requires 30 calendar days after receipt of the submission to review and comment on the interim design submittal. For smaller design packages, especially those that involve only one or a few separate design disciplines, the parties may agree on a shorter review period or alternative review methods (e.g., over-the-shoulder or electronic file sharing), through the partnering process.

a. For each interim design review submittal, the Contracting Officer will

furnish a single consolidated, validated set of comments from the various design sections and from other concerned agencies involved in the review process using the DrChecks Design Review and Checking System. The review will be for conformance with the technical requirements of the Contract.

- b. The Government reserves the right to reject design document submittals if comments are deemed significant.
- c. Furnish disposition of all comments, in writing, through DrChecks. If there are technical disagreements with any comments, clearly outline, with justification, the reasons for disagreement and noncompliance within five calendar days after receipt of these comments.
- d. As stated in subpart "DrChecks Review Comments," the Contractor is cautioned that if it believes the action required by any comment exceeds the requirements of this contract, that it should take no action and notify the Contracting Officer in writing immediately, and await further clarification and instruction.

3.9.3 Interim Review Conference

Hold an Interim Review conference for each design submittal at either the installation or as agreed upon as part of the partnering process. Attendees include, at a minimum, the DOR(s) involved in development of the design submittal. Schedule the conference to take place the week after the receipt of the comments. Notify the Contracting Officer of any comments that with concurrence would require further design development.

For smaller fast-track packages that involve only a few reviewers, the parties may agree to alternative conferencing methods, such as teleconferencing, or televideo, where available, as determined through Partnering.

3.9.4 Review Conference Documentation

3.9.4.1 Minutes and Comment Process

Provide meeting minutes within three work days after the conference adjourns, and enter final resolution of all comments into DrChecks. Include copies of comments, annotated with comment action agreed on, with the minutes.

- a. Resolve issues remaining open after the conference adjourns by immediate follow-on action to close the issue within 30 calendar days.
- b. Incorporate comments as agreed upon during the conference.

3.9.4.2 Availability

In order to facilitate the Government code and contract conformance reviews, identify, track resolution of, and maintain all comments and action items generated during the design review process. Make this available to the designers and reviewers prior to the subsequent design reviews.

3.10 FINAL DESIGN REQUIREMENTS

Provide final design submittal that consist of 100 percent complete

drawings, specifications, submittal register, design documentation report for Government review and concurrence.

- a. Include any permits required by the contract for each package submitted.
- b. In order to expedite the final design review, prior to the conference, ensure that the design configuration management data and all review comment resolutions are up-to-date.
- c. Perform independent technical reviews and backchecks of previous comment resolutions, as required by Section 01 45 00 QUALITY CONTROL.

3.10.1 Design Drawings

Submit drawings complete with all contract requirements incorporated into the documents to provide a 100 percent design for each package submitted. In addition to all native CAD Modeling files, provide separate electronic files in a PDF format.

3.10.1.1 Geo-Referenced Data

Capture geo-referenced coordinates of all changes that will be made to the existing site (utility line installations and alterations, roads, etc) as a result of this contract.

Close-out requirements at the as-built stage, require final geo-referenced GIS Database of the new facility along with all exterior modifications. The Government will incorporate this data set into the Town's GIS System. See also, Section 01 78 00 CLOSEOUT SUBMITTALS.

3.10.2 Design Documentation Report

Provide a design documentation report with calculations necessary to validate and support all design work submitted. Expand and advance calculations and information presented in the interim design stage to the current level of design. Move design narrative elements that were specific to the interim design and are no longer applicable, such as those detailing specific plans for the project specifications, to a new interim design appendix for future reference. The responsible DOR(s) stamp, sign and date the design documentation report, which also includes the review certifications required by the Design Quality Control Plan in Specification Section 01 45 00 QUALITY CONTROL.

3.10.3 Specifications

Provide specifications 100 percent complete, displaying corrections, additions, and revisions in color. Also provide the electronic files in .sec format for the specifications.

3.10.4 Submittal Register

Provide an updated, cumulative submittal register with the design package that identifies the design and construction submittals required.

3.11 CORRECTED FINAL DESIGN REQUIREMENTS

Provide corrected final design submittal that consist of the final design package after incorporating comments from the Government's final design review for Government backcheck and acceptance. In addition to tracking

changes made in response to Government comments, track and report any additional change made from the concurred Final Design package for Government review.

3.11.1 Design Drawings

Submit drawings complete with all contract requirements incorporated into the documents to provide a 100 percent design for each package submitted. In addition to all native Advanced Modeling files, provide separate electronic files in a PDF format.

3.11.2 Design Documentation Report

Provide a design analysis with calculations necessary to validate and support all design work submitted. Expand and advance calculations and information presented in the interim design stage to the current level of design. The responsible DOR(s) stamp, sign and date the design analysis.

3.11.3 Specifications

Provide specifications 100 percent complete and in final form without color and with revisions executed or hidden. Provide updated electronic files in .sec format for all sections that were revised during the final review.

3.11.4 Submittal Register

Provide an updated, submittal register incorporating any revisions required by the final design review.

3.12 DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS

After the corrected final design package is backchecked and all comments are closed, submit the final design complete documents which, after Government acceptance, are also referred to as the Issued for Construction (IFC) documents. The deliverable includes all documentation and supporting design analysis in final form, as well as the final review comments, disposition and the back-check. As part of the quality assurance process, the Government may perform a review of the released for construction documentation. Promptly correct any errors or omissions found during the Government review. Changes that are not directly in response to Government comments are not allowed when preparing the IFC package. If the DOR believes additional changes are necessary between the Corrected Final Design submittal and the IFC submittal, these change must follow the procedures outlined in Specification Section 01 33 00 SUBMITTAL PROCEDURES, subpart "Variations from the Accepted Design". Changes made to the design drawings and specifications that are not specifically brought to the Government's attention for acceptance and not considered part of the accepted design. The Contractor may be required to rework features of work that are constructed based on designs and parts of designs that have not been accepted.

3.13 ACCEPTANCE AND RELEASE FOR CONSTRUCTION

After acceptance of the design complete documents, these documents will become the "released for construction" version of the design package, and the Contracting Officer will allow construction to start for that design package.

Government review and acceptance of design submittals is for contract

conformance only and does not relieve the Contractor from responsibility to fully adhere to the requirements of the contract, including the Contractor's accepted proposal, or limit the Contractor's responsibility of design or limit the Government's rights under the terms of the contract. The Government reserves the right to rescind inadvertent acceptance of design submittals containing contract deviations not separately and expressly identified in the submittal for Government consideration and approval.

3.14 DESIGNER RESPONSIBILITIES DURING CONSTRUCTION

During construction the Designer of Record is responsible for reviewing all technical submittals and approving all submittals marked for "designer of record approval". The Contractor is responsible for the technical accuracy and relevance of all submittals. If the Contractor repeatedly fails to correct submittal mistakes or quality issues, or fails to correct a singular major quality issue, the Government may pursue corrective action to ensure construction quality and design integrity.

The DOR is expected to aid in the preparation of periodic as-built drawing updates throughout construction and the final preparation of Record Drawings at the end of construction. As-Builts and Record Drawings are further defined in Specification Section 01 78 00 CLOSEOUT SUBMITTALS. DOR must maintain a consolidated working set of specifications during construction and provide them to the Government upon request.

The DOR is also expected to occasionally visit the construction site before, during, and after active construction. DOR site visits are meant to ensure that critical construction features are installed or constructed properly according to the DOR-approved and Government-accepted plans and specifications. The Contractor in conjunction with the DOR for each discipline is responsible for ensuring that the work associated with each DOR's discipline has been constructed in accordance with the accepted Issued for Construction (IFC) documents. At a minimum the DOR must visit the project site four times: once before or during design, which can be accomplished as part of the initial design conference; once after the design has been accepted by the Government but before construction begin, to help communicate design requirements to construction managers; once during construction, this would happen early in the construction of a critical feature to ensure construction is progressing as defined in the accepted IFC documents; and once following construction or very near the conclusion of construction to verify the as-constructed conditions match the accepted IFC drawings. Deficiencies identified at any of these site visits must be promptly communicated to the Contractor's Quality Control Manager and the Contracting Officer.

-- End of Section --

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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 SAFETY PROFESSIONALS (ASSP)

ANSI/ASSP A10.34 (2021) Protection of the Public on or
Adjacent to Construction Sites

ANSI/ASSP A10.44 (2020) Control of Energy Sources
(Lockout/Tagout) for Construction and
Demolition Operations

ASTM INTERNATIONAL (ASTM)

ASTM F855 (2020) Standard Specifications for
Temporary Protective Grounds to Be Used on
De-energized Electric Power Lines and
Equipment

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 1048 (2016) Guide for Protective Grounding of
Power Lines

IEEE C2 (2023) National Electrical Safety Code

INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION (ISEA)

ANSI/ISEA Z87.1 (2020) Occupational and Educational
Personal Eye and Face Protection Devices

ANSI/ISEA Z89.1 (2014; R 2019) American National Standard
for Industrial Head Protection

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 51B (2024) Standard for Fire Prevention During
Welding, Cutting, and Other Hot Work

NFPA 70 (2026; TIA 26-1; ERTA 26-1; TIA 26-2; TIA
26-3; TIA 26-4; TIA 26-5; TIA 26-6; TIA
26-7; ERTA 26-2; ERTA 26-3) National
Electrical Code

NFPA 70E (2024) Standard for Electrical Safety in
the Workplace

NFPA 241 (2022; ERTA 22-1) Standard for
Safeguarding Construction, Alteration, and
Demolition Operations

NFPA 306 (2024) Standard for the Control of Gas
Hazards on Vessels

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2024) Safety -- Safety and Occupational
Health (SOH) Requirements

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

29 CFR 1910 Occupational Safety and Health Standards

29 CFR 1926 Safety and Health Regulations for
Construction

1.2 DEFINITIONS

The following definitions are for the convenience of the reader. If there is a referenced document in the text of this specification section, that is the document that should define terms for that paragraph. If further clarification is needed, contact the Contracting Officer.

1.2.1 Site Safety and Health Officer (SSHO)

A Contractor Employee that is responsible for overseeing and ensuring implementation of the prime Contractor's Safety and Occupational Health (SOH) program according to the Contract, EM 385-1-1, applicable federal, state, and local requirements.

1.2.1.1 Level One SSHO

A designated employee with full-time SOH responsibility that meets and follows the requirements of EM 385-1-1.

1.2.1.2 Level Two SSHO

A designated employee with Level Two SSHO responsibility that meets and follows the requirements of EM 385-1-1. Level Two SSHOs cannot be assigned to projects that have a residual Risk Assessment Code (RAC) of high or extremely high.

1.2.1.3 Level Three SSHO

A designated Qualified Person or Competent Person with SOH responsibility that meets and follows the requirements of EM 385-1-1. Level 3 SSHOs cannot be assigned to projects that have a residual RAC of high or extremely high.

1.2.1.4 Alternate SSHO

An employee that meets the definition of the contract-required level SSHO, but is not the primary SSHO.

1.2.2 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 unsanitary, hazardous, or dangerous to personnel, and who has authorization to take prompt corrective measures to eliminate them.

1.2.3 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.

1.3 SUBMITTALS

Government Acceptance or Approval does not remove responsibility from the Contractors for their actions or liability.

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification 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) Design; G

Accident Prevention Plan (APP) Construction; G

SD-06 Test Reports

Accident Reports; G

LHE Inspection Reports

Monthly Exposure Reports; G

SD-07 Certificates

Activity Hazard Analysis (AHA); G

Certificate of Compliance

Hot Work Permit

License Certificates

Standard Lift Plan; G

1.4 PUBLIC HEALTH EMERGENCIES

In the event of a declared public health emergency, follow safety precautions as required by the Occupational Safety and Health Administration (OSHA) www.osha.gov, the Centers for Disease Control and

Prevention (CDC) www.cdc.gov, and as required by federal, state and local requirements.

1.5 MONTHLY EXPOSURE REPORTS

Provide a Monthly Exposure Report by the fifth day of each month for the previous month. 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 progress payment. Submit the hours via the agency construction management system of record.

1.6 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 at the date of the Solicitation for this Contract. 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.

1.7 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.7.1 Site Safety and Health Officer (SSHO)

1.7.1.1 Qualifications of SSHO

All SSHOs will have met the training, experience requirements identified in the EM 385-1-1 and this Contract. Submit SSHO and an alternate SSHO qualifications for approval a minimum of 15 days prior to the start of on-site work..

1.7.1.2 Duties of SSHO

All SSHOs will carry out the roles and responsibilities as identified in this Contract and the EM 385-1-1. All SSHOs will be designated on an ENG Form 6282, provided by the Contracting Officer. Superintendent, QC Manager, and SSHO are subject to dismissal if their required duties are not being effectively carried out. If either the Superintendent, QC Manager, or SSHO are 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.

1.7.1.3 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, or foremen 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.

1.7.1.3.1 Safety Mutual Understanding Meeting

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the Accident Prevention Plan (APP), meet with the Contracting Officer and discuss the Contractor's safety program. Submit the APP for Government review a minimum of 15 calendar days prior to the Mutual Understanding Meeting. During the meeting, a mutual understanding of the safety program details must be developed, including incorporated plans, programs, program management, anticipated AHAs that will be developed and implemented during the performance, additional safety meeting requirements, PPE, mishap reporting, and additional contract requirements considered unique. 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 may be occasions when subsequent meetings will be called by either party to reconfirm mutual understandings or address deficiencies in the safety program or procedures which can require corrective action by the Contractor.

1.7.2 Roles and Responsibilities of Prime Contractor and SSHO

The Prime Contractor and SSHO must ensure that the requirements of all applicable OSHA and EM 385-1-1 are met for the project. The Prime Contractor must ensure a primary or alternate SSHO, meeting the qualifications required by this contract, is on-site at all times when work is being performed to implement the Contractor's safety program and Government-accepted Accident Prevention Plan.

1.7.3 Contract Site Safety And Health Officer(s) (SSHOs) Minimum Requirements

Provide a minimum of one Level One SSHO that meets the requirements of EM 385-1-1 for this project.

1.7.4 Competent Person for Confined Space Entry

Provide a Competent Person (CP) for Confined Space Entry who meets the requirements of EM 385-1-1 and herein. The CP for Confined Space Entry must supervise the entry into each confined space in accordance with EM 385-1-1.

This work may involve confined space entry where combustible or hazardous materials are present.. Confined space and enclosed space work must comply with all applicable requirements for such work, including those found in EM 385-1-1 Chapter 34 NFPA 306, 29 CFR 1910 for general industry, 29 CFR 1926 for construction.

1.7.5 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.

1.8 ACCIDENT PREVENTION PLAN (APP)

1.8.1 Accident Prevention Plan (APP) Design

Provide a site-specific Accident Prevention Plan (APP), including Activity Hazard Analyses (AHA), in accordance with EM 385-1-1, ENG Form 6293, for the design team to follow during site visits and investigations. For subsequent visits, update the plan if there are changes in the personnel who will be attending, or the tasks to be performed. Submit the APP for review and acceptance by the Government at least 15 calendar days prior to the start of any on-site design-related field work. Field work must not begin until the design APP is accepted by the Contracting Officer. Prior to the start of construction, incorporate the Design APP into the Construction APP so that one site specific APP exists for the project and submit to the Contracting Officer for acceptance.

If the design scope includes borings or other subsurface investigations, include in the APP the type of field investigation and verification techniques, such as visual, local utility locating service scanning and third party subcontractor scanning, potholing, or hand digging within two feet of a known utility that will be required. Mark underground utilities before starting any ground-disturbing actions. Notify the Contracting Officer 15 days prior to the start of soil borings or sub-surface investigations.

1.8.2 Accident Prevention Plan (APP) Construction

Submit the Accident Prevention Plan (APP) for review and acceptance by the Government. A competent person must prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of EM 385-1-1, ENG Form 6293, and herein. 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 occupational 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 employer" for all worksite 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 in accordance with the APP and ENG Form 6293 Accident Prevention Plan Worksheet. The SSO 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 not less than 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 ANSI/ASSP A10.34), and the environment.

1.8.3 Names and Qualifications

- 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. As a minimum, designate and submit qualifications of Competent Persons (CP) for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy (lockout/tagout); 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.
- c. Designate and submit qualifications for additional CPs as applicable to the work performed under this Contract.

1.8.4 Specific Safety Plans

The APP shall include the following specific, stand-alone safety plans, as a minimum:

1.8.4.1 Site Demolition Plan

This plan shall identify the safety and health aspects and specific procedures for all demolition activities. Prepare in accordance with Section 02 41 00 DEMOLITION, which shall be developed by the Contractor's Designer of Record as part of the design deliverables required by this contract.

1.9 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 or as directed by the Contracting Officer. Submit the AHA for review at least 30 working days prior to the start of each activity task, or DFO. 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.

1.9.1 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. AHAs as a living breathing document must include applicable findings from the occurring 3394 mishap investigation in the form of Redlines updates to current AHA if it is an applicable means of mishap mitigation. Reference EM 385-1-1 paragraph 1-6.a.

1.9.2 AHA Signature Log

Each employee performing work as part of an activity, task or DFO 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.

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in paragraph REFERENCES. Maintain applicable equipment manufacturer's manuals on-site and make them available to all employees using the equipment.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors must arrange for their own emergency medical treatment in accordance with EM 385-1-1. The Government will not have a responsibility to provide emergency medical treatment to Contractor or subcontractor personnel.

1.12 NOTIFICATIONS AND REPORTS

1.12.1 Accident Notification

Notify the Contracting Officer in accordance with the EM 385-1-1 Accident

Reporting Timeline.

Table Accident Reporting Required Timeline		
Accident Type	Notify KO or COR	Complete Final Accident Report on ENG 3394 and provide to KO or COR
Fatality, in-patient hospitalization, amputation, eye loss, or property damage over \$600,000.	Immediately, no later than (NLT) 8 Hours	Within 7 Days
All other accidents and near misses	Immediately, no later than (NLT) 24 Hours	Within 7 Days

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 accident or near miss.

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. All accidents are reportable, regardless of whether or not they are recordable. Complete the applicable USACE Accident Report, ENG Form 3394, and provide the report to the Contracting Officer within 7 calendar days of the accident. The Contracting Officer will provide copies of any required or special forms.
- b. Near Misses: Report all "Near Misses" to the Contracting Officer, using local accident reporting procedures, within 24 hours. The Contracting Officer will provide the Contractor the required forms. Near miss reports are considered positive and proactive Contractor safety management actions.

1.12.3 LHE Inspection Reports

Submit LHE inspection reports required in accordance with EM 385-1-1 with the corresponding Daily Reports of Inspections.

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

1.12.4.1 Certificate of Compliance

Provide a Certificate of Compliance for LHE utilized to perform work under this Contract in accordance with Section 16-7 of the EM 385-1-1. Post

completed certificate on the crane.

1.12.4.2 Pre-Lift Plans

Develop either a Standard Lift Plan (SLP) or Critical Lift Plan (CLP) as required in accordance with EM 385-1-1. Utilize the Standard Lift Plan ENG Form 6203 for routine crane lifts and use the Critical Lift Plan ENR Form 6213 for non-routine crane lifts requiring more detailed planning and additional safety precautions, as defined by Section 16-2j of the EM 385-1-1. Submit lift plans to the Contracting Officer for review within 15 calendar days in advance of planned lift.

1.13 HOT WORK PERMIT

1.13.1 Permit and Personnel Requirements

Submit and obtain a written permit from the Y-12 Fire Department prior to performing "Hot Work" (i.e., welding or cutting) or operating other flame-producing/spark producing devices. Contractors are required to meet all criteria before a permit is issued. Provide at least two 20 pound 4A:20 BC rated extinguishers for normal "Hot Work". The extinguishers must be current inspection tagged, and contain an approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch must be trained in accordance with NFPA 51B and remain on-site for a minimum of 1 hour after completion of the task or as specified on the hot work permit.

When starting work in the facility, require personnel to familiarize themselves with the location of the nearest fire alarm boxes and know the emergency Fire Department phone number. Report any fire, no matter how small, to the responsible Fire Department and Contracting Officer immediately.

1.13.2 Work Around Flammable Materials

Obtain permit approval from a NFPA Certified Marine Chemist, or Certified Industrial Hygienist for "Hot Work" within or around flammable materials (such as fuel systems or welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, or vaults) that have the potential for flammable or explosive atmospheres.

Whenever these materials, except beryllium and chromium (VI), are encountered in indoor operations, local mechanical exhaust ventilation systems that are sufficient to reduce and maintain personal exposures to within acceptable limits must be used and maintained in accordance with manufacturer's instruction and supplemented by exceptions noted in EM 385-1-1.

1.14 CONFINED SPACE ENTRY REQUIREMENTS

Confined space entry must comply with EM 385-1-1, 29 CFR 1926 Subpart AA, 29 CFR 1910.146. Any potential for a hazard in the confined space requires a permit system to be used.

1.14.1 Rescue Procedures and Coordination with Local Emergency Responders

Develop and implement an on-site rescue and recovery plan and procedures as part of the project's Accident Prevention Plan (APP). The rescue plan must not rely on local emergency responders for rescue from a confined space.

1.15 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must comply with the installation's Severe Weather Action 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 shall govern

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. Mandatory minimum PPE for all personnel entering the construction area includes:

- a. Head Protection that meets ANSI/ISEA Z89.1
- b. Eye Protection that meets ANSI/ISEA Z87.1
- c. Long Pants
- d. Appropriate Safety Footwear
- e. Appropriate Class Reflective Vests (in accordance with EM 385-1-1)

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 device 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 and include this procedure in the APP.

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 Part 1910.1000). If material(s) that can be hazardous to human health upon disturbance are encountered during demolition, repair, renovation, or construction operations, stop portions of work that would disturb the material and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification in accordance with FAR 52.243-4, Changes.

3.2 UTILITY OUTAGE REQUIREMENTS

Apply for utility outages at least 15 days in advance. At a minimum, the written request must include the location of the outage, utilities being affected, duration of outage, any necessary sketches, and a description of the means to fulfill energy isolation requirements in accordance with EM 385-1-1. Where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy.

These activities include, but are not limited to, a review of the Contractor's Hazardous Energy Control Program (HECP) and HEC procedures, as well as applicable Activity Hazard Analyses (AHAs). In accordance with EM 385-1-1 and NFPA 70E, work on energized electrical circuits must not be performed without prior Government authorization. Government permission is considered through the permit process and submission of a detailed AHA. Energized work permits are considered only when de-energizing introduces additional or increased hazard or when de-energizing is infeasible.

3.3 OUTAGE COORDINATION MEETING

After the utility outage request is approved and prior to beginning work on the utility system requiring shut-down, conduct a pre-outage coordination meeting in accordance with EM 385-1-1. This meeting must include the Prime Contractor, the Prime and subcontractors performing the work, the Contracting Officer, and the Installation representative. All parties must fully coordinate HEC activities with one another. During the coordination meeting, all parties must discuss and coordinate on the scope of work, HEC procedures (specifically, the lock-out/tag-out procedures for worker and utility protection), the AHA, assurance of trade personnel qualifications, identification of competent persons, and compliance with HECP training in accordance with EM 385-1-1. Clarify when personal protective equipment is

required during switching operations, inspection, and verification.

3.4 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

Provide and operate a Hazardous Energy Control Program (HECP) in accordance with EM 385-1-1, 29 CFR 1910, ANSI/ASSP A10.44, NFPA 70E.

3.4.1 Safety Preparatory Inspection Coordination Meeting with the Government or Utility

For electrical distribution equipment that is to be operated by Government or Utility personnel, the Prime Contractor and the subcontractor performing the work must attend the safety preparatory inspection coordination meeting, which will also be attended by the Contracting Officer's Representative, as required by EM 385-1-1. The meeting will occur immediately preceding the start of work and following the completion of the outage coordination meeting.

3.4.2 Lockout/Tagout Isolation

Where the Government or Utility performs equipment isolation and lockout/tagout, the Contractor must place their own locks and tags on each energy-isolating device and proceed in accordance with the HECP. Before any work begins, the Contractor and the Government or Utility must perform energy isolation verification testing while wearing required PPE detailed in the Contractor's AHA and required by EM 385-1-1. Install personal protective grounds, with tags, to eliminate the potential for induced voltage in accordance with EM 385-1-1.

3.4.3 Lockout/Tagout Removal

Upon completion of work, conduct lockout/tagout removal procedure in accordance with the HECP. In accordance with EM 385-1-1, each lock and tag must be removed from each energy isolating device by the authorized individual or systems operator who applied the device. Provide formal notification to the Government (by completing the Government form if provided by Contracting Officer's Representative), confirming that steps of de-energization and lockout/tagout removal procedure have been conducted and certified through inspection and verification. Government or Utility locks and tags used to support the Contractor's work will not be removed until the authorized Government employee receives the formal notification.

3.5 FALL PROTECTION PROGRAM

Establish a fall protection program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify roles and responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with EM 385-1-1.

3.5.1 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1.

Provide personal fall protection equipment, systems, subsystems, and components that comply with EM 385-1-1 and 29 CFR 1926 Subpart M.

3.5.1.1 Additional Personal Fall Protection Measures

In addition to the required fall protection systems, other protective measures such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with EM 385-1-1. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing work.

3.5.1.2 Personal Fall Protection Equipment

Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. The use of body belts for fall arrest is not acceptable. Harnesses must have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Snap hooks and carabineers must be self-closing and self-locking, capable of being opened only by at least two consecutive deliberate actions and have a minimum gate strength of 3,600 lbs in all directions. Use webbing, straps, and ropes made of synthetic fiber. The maximum free fall distance when using fall arrest equipment must not exceed 6 feet. Always take into consideration the total fall distance and any swinging of the worker (pendulum-like motion), that can occur during a fall, when attaching a person to a fall arrest system. Equip all full body harnesses with Suspension Trauma Preventers such as stirrups, relief steps, or similar in order to provide short-term relief from the effects of orthostatic intolerance in accordance with EM 385-1-1.

3.6 USE OF EXPLOSIVES

Explosives must not be used.

3.7 ELECTRICAL

Perform electrical work in accordance with EM 385-1-1.

3.7.1 Electrical Work

As described in EM 385-1-1, electrical work is to be conducted in a de-energized state unless there is no alternative method for accomplishing the work. In those cases obtain an energized work permit from the Contracting Officer. The energized work permit application must be accompanied by the AHA and a summary of why the equipment/circuit needs to be worked energized. Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Attach temporary grounds in accordance with ASTM F855 and IEEE 1048. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator is allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method.

When working in energized substations, only qualified electrical workers are permitted to enter. When work requires work near energized circuits as defined by NFPA 70, all personnel must use Personal Protective Equipment (PPE) as required by the arc flash hazard analysis and NFPA 70E. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA. Ensure that each employee is familiar with and complies with these procedures and 29 CFR 1910 Subpart S.

3.7.2 Qualifications

Electrical work must be performed by QP with verifiable credentials who are familiar with applicable code requirements. Verifiable credentials consist of State, National and Local Certifications or Licenses that a Master or Journeyman Electrician may hold, depending on work being performed, and must be identified in the appropriate AHA. Journeyman/Apprentice ratio must be in accordance with State and Local requirements applicable to where work is being performed.

3.7.3 Arc Flash

Conduct a hazard analysis/arc flash hazard analysis whenever work on or near energized parts greater than 50 volts is necessary, in accordance with NFPA 70E.

All personnel entering the identified arc flash protection boundary must be QPs and properly trained in NFPA 70E requirements and procedures. Unless permitted by NFPA 70E, no Unqualified Person is permitted to approach nearer than the Limited Approach Boundary of energized conductors and circuit parts. Training must be administered by an electrically qualified source and documented.

3.7.4 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70 and IEEE C2 to provide a permanent, continuous and effective path to ground unless otherwise noted by EM 385-1-1.

3.7.5 Testing

Temporary electrical distribution systems and devices must be inspected, tested and found acceptable for Ground-Fault Circuit Interrupter (GFCI) protection, polarity, ground continuity, and ground resistance before initial use, before use after modification and at least monthly. Monthly inspections and tests must be maintained and documented for each temporary electrical distribution system, and signed by the electrical CP or QP.

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SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g., ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

AACE INTERNATIONAL (AACE)
726 East Park Avenue #180
Fairmont, WV 26554 USA
Ph: 304-296-8444
Fax: 304-291-5728
Internet: <https://web.aacei.org/>

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)
1801 Alexander Bell Drive
Reston, VA 20191
Ph: 800-548-2723; 703-295-6300
Email: customercare@asce.org
Internet: <https://www.asce.org/>

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)
520 N. Northwest Highway
Park Ridge, IL 60068
Ph: 847-699-2929
E-mail: customerservice@assp.org
Internet: <https://www.assp.org/>

AMERICAN WATER WORKS ASSOCIATION (AWWA)
6666 W. Quincy Avenue
Denver, CO 80235 USA
Ph: 303-794-7711 or 800-926-7337
Fax: 303-347-0804
Internet: <https://www.awwa.org/>

American Society for Photogrammetry and Remote Sensing (ASPRS)
PO Box 14713
Baton Rouge, LA 70898
Phone: (225) 408-4747

Fax: (225) 408-4422
Internet: <https://www.asprs.org/>

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: <https://www.astm.org/>

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)
445 and 501 Hoes Lane
Piscataway, NJ 08854-4141
Ph: 732-981-0060 or 800-701-4333
Fax: 732-981-9667
E-mail: onlinesupport@ieee.org
Internet: <https://www.ieee.org/>

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)
ISO Central Secretariat
BIBC II
Chemin de Blandonnet 8
CP 401 - 1214 Vernier, Geneva
Switzerland
Ph: 41-22-749-01-11
E-mail: central@iso.ch
Internet: <https://www.iso.org>

INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION (ISEA)
1101 Wilson Blvd, Suite 1425
Arlington, VA 22209-1762
Ph: 703-525-1695
Fax: 703-528-2148
Internet: <https://safetyequipment.org/>

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 800-344-3555
Fax: 800-593-6372
Internet: <https://www.nfpa.org>

NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ)
Internet: <https://www.deq.nc.gov/>
217 West Jones Street
Raleigh, NC 27603
Ph: (919) 622-0053
Email: cathy.akroyd@ncdenr.gov

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT)
Internet: <https://www.ncdot.gov/Pages/default.aspx>
1501 Mail Service Center
Raleigh, NC 27699-1501

TOWN OF WEAVERVILLE, NORTH CAROLINA (WVR-NC)
30 South Main Street

Weaverville, NC 28787
Ph: (828) 645-7116
Fax: (828) 645-4776
Internet: <https://weavervillenc.org/>

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet: <https://www.wbdg.org/army>
THE CAD/BIM TECHNOLOGY CENTER FOR FACILITIES, INFRASTRUCTURE, AND
ENVIRONMENT (USACE) on Internet:
<https://cadbimcenter.erdc.dren.mil/>
Order Other Documents from:
Official Publications of the Headquarters, USACE
E-mail: hqpublications@usace.army.mil
Internet: <http://www.publications.usace.army.mil/>
or
<https://www.hnc.usace.army.mil/Missions/Engineering-Directorate/TECHINFO/>

U.S. DEPARTMENT OF DEFENSE (DOD)
Order DOD Documents from:
Room 3A750-The Pentagon
1400 Defense Pentagon
Washington, DC 20301-1400
Ph: 703-571-3343
Fax: 215-697-1462
E-mail: customerservice@ntis.gov
Internet: <https://www.ntis.gov/>
Obtain Military Specifications, Standards and Related Publications
from:
Acquisition Streamlining and Standardization Information System
(ASSIST)
Department of Defense Single Stock Point (DODSSP)
Document Automation and Production Service (DAPS)
Building 4/D
700 Robbins Avenue
Philadelphia, PA 19111-5094
Ph: 215-697-6396 - for account/password issues
Internet: <https://assist.dla.mil/online/start/>; account
registration required
Obtain Unified Facilities Criteria (UFC) from:
Whole Building Design Guide (WBDG)
National Institute of Building Sciences (NIBS)
1090 Vermont Avenue NW, Suite 700
Washington, DC 20005
Ph: 202-289-7800
Fax: 202-289-1092
Internet:
<https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc>

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)
1200 New Jersey Ave., SE
Washington, DC 20590
Ph: 202-366-4000
E-mail: ExecSecretariat.FHWA@dot.gov
Internet: <https://highways.dot.gov/>
Order from:
Superintendent of Documents
U.S. Government Publishing Office (GPO)
732 N. Capitol Street, NW
Washington, DC 20401

Ph: 202-512-1800 or 866-512-1800
Bookstore: 202-512-0132
Internet: <https://www.gpo.gov/>

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road
College Park, MD 20740-6001
Ph: 866-272-6272
Internet: <https://www.archives.gov/>
Order documents from:
Superintendent of Documents
U.S. Government Publishing Office (GPO)
732 N. Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800 or 866-512-1800
Bookstore: 202-512-0132
Internet: <https://www.gpo.gov/>

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

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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 in 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 (2025b) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2024) Safety -- Safety and Occupational Health (SOH) Requirements

ER 1165-2-217 (2025) Civil Works Quality and Review Policy

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 Pricing Schedule item.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification 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

Design Quality Control Plan (DQCP); G, ECG-C

SD-06 Test Reports

Verification Statement

1.4 GENERAL REQUIREMENTS

Establish and maintain an effective quality control (QC) system that complies with FAR 52.246-12 Inspection of Construction. QC is comprised of plans, procedures, and organization necessary to produce an end product that complies with the Contract requirements. The QC system covers all design and construction operations, both onsite and offsite, and must be keyed to the proposed design and construction sequence. The Project Manager, Design Quality Control Manager, Quality Control Manager, Superintendent, Site Safety and Health Officer (SSHO), and all on-site supervisors are responsible for the quality of work and are subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the Contract. The Quality Control Manager must maintain a physical presence at the work site at all times and is the primary individual responsible for all quality control.

1.5 QUALITY CONTROL (QC) PROGRAM REQUIREMENTS

Establish and maintain a QC program as described in this section. The QC program consists of a QC Organization, QC Plan, QC Plan Meeting(s), a Coordination and Mutual Understanding Meeting, QC meetings, three phases of control, submittal review and approval, testing, completion inspections, QC certifications, and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations that comply with the requirements of this Contract. The QC program must cover on-site and off-site work and be keyed to the work sequence. No construction work or testing may be performed unless the QC Manager is on the work site. The QC Manager must report to an officer of the firm and not be subordinate to the Project Superintendent or the Project Manager. The QC Manager, Project Superintendent and Project Manager must work together effectively. Although the QC Manager is the primary individual responsible for quality control, all individuals will be held responsible for the quality of work on the job.

1.5.1 Meetings

1.5.1.1 Quality Control Plan Meeting

Prior to submission of the QC Plan, the Contractor may request a meeting with the Contracting Officer to discuss the QC Plan requirements of this Contract.

The purpose of this meeting is to develop a mutual understanding of the QC Plan requirements prior to plan development and submission and to agree on the Contractor's list of Definable Feature of Work (DFOW).

1.5.1.2 Coordination and Mutual Understanding Meeting

After the Post Award Conference, before start of design or 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. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the CQC operations, design activities, 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 QC Manager and signed by the Contractor, the Architect/Engineer (A/E), and the Government. Provide a copy of the signed minutes to all attendees. At a minimum the Coordination and Mutual

Understanding Meeting must be repeated when a new QC Manager is appointed. There can be other 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.

1.5.1.2.1 Purpose

The purpose of this meeting is to develop a mutual understanding of the QC details, including documentation, administration for on-site and off-site work, design intent, environmental requirements and procedures, coordination of activities to be performed, and the coordination of the Contractor's management, production, and QC personnel. At the meeting, the Contractor must explain in detail how three phases of control will be implemented for each DFO, as well as how each DFO will be affected by each management plan or requirement as listed below:

- a. Waste Management Plan.
- b. Procedures for noise and acoustics management.
- c. Environmental Protection Plan.
- d. Environmental regulatory requirements.

1.5.1.2.2 Coordination of Activities

Coordinate activities included in various sections to assure efficient and orderly installation of each component. Coordinate operations included under different sections that are dependent on each other for proper installation and operation.

1.5.1.2.3 Attendees

As a minimum, the Contractor's personnel required to attend include an officer of the firm, the Project Manager, Design Quality Control Manager, Project Superintendent, QC Manager, Alternate QC Manager QC Specialists, Environmental Manager, and subcontractor representatives. Each subcontractor who will be assigned QC responsibilities must have a principal of the firm at the meeting.

1.5.1.3 Quality Control (QC) Meetings

After the start of construction, conduct weekly QC meetings led by the QC Manager at the work site with the Project Superintendent, the QC Specialists, and the other personnel as necessary. The QC Manager is to prepare the minutes of the meeting and provide a copy to the Contracting Officer within 2 working days after the meeting. The Contracting Officer, or designated representatives, may attend these meetings. As a minimum, accomplish the following at each meeting:

- a. Review the minutes of the previous meeting.
- b. Review the schedule and the status of work and deficiencies/rework. Review the most current approved schedule (in accordance with schedule specification) and the status of work and deficiencies/rework.
- c. Review the status of submittals and Request For Information (RFIs).

- d. Review the work to be accomplished in the next 3 weeks as defined by the schedule section paragraph WEEKLY PROGRESS MEETINGS in Section 01 32 01.00 10 PROJECT SCHEDULE and all quality control documentation required for that work.
- e. Review Testing Plan and Log including status of tests performed since last QC Meeting.
- f. Resolve QC and production problems. Discuss status of pending change orders.
- g. Address items that may require revising the QC Plan.
- h. Review Accident Prevention Plan (APP) and effectiveness of the safety program.
- i. Review environmental requirements and procedures.
- j. Review Environmental Management Plan.
- k. Review Waste Management Plan.
- l. Review the status of training completion.

1.5.2 Design Quality Control Definitions

See ER 1165-2-217, Glossary of Terms Section II, for quality related definitions such as independence (of reviewers), peer review, quality assurance, quality control. Additional definitions are provided, as well as some supplemental definitions to those included in ER 1165-2-217. Additional design related definitions may be found elsewhere in the Contract Documents including Specification Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD).

1.5.2.1 Design Project Manager

The individual responsible for facilitating the interfacing between design professionals, cost estimators, construction managers, and the Government's project management team, to include the Government's Project Manager, Contracting Officer's Representative, and Project Technical Lead. The design project manager is responsible for ensuring design quality and excellence within the Design-Build team, ensuring constructability input to the design, and managing communication and deliverables. The design project manager is also responsible for communicating design commitment to the Government when design commitment occurs before or between official design submittal review periods.

1.5.2.2 Design Quality Control Manager

The individual responsible for ensuring design reviews are conducted thoroughly and to the detail appropriate for the level of design maturity for each design submittal. The design quality control manager ensures design submittals, including the Specifications, Plans, and Design Analysis, are formed as a cohesive package, such that it appears as if one individual were responsible for creating it all. The design quality control manager is also responsible for ensuring that all review comments from prior reviews have been appropriately addressed and resolved before the next review begins. The design quality control manager has the responsibility of being cognizant of and assuring that all documents on the

project have been coordinated and who coordinates work with and reports to the Contracting Officer via the QC Manager. An alternate design quality control manager, who meets the same qualifications required for the primary quality control manager, must be identified.

1.5.2.3 Design Quality Assurance (DQA)

Verifying the effectiveness of the quality control processes and measures used to produce a service or product that is compliant with contractual requirements, including referenced codes and criteria. DQA is performed by the Government.

1.5.2.4 Design Quality Control (DQC)

Ensuring the technical correctness and professional quality of a service or product, including compliance with contractual requirements. This includes the validity of assumptions made, processes used, and compliance with referenced codes and criteria. The responsibility for design quality control is on the Contractor.

1.5.3 Design Quality Control (DQC) Plan

Submit no later than 30 calendar days after receipt of notice to proceed, the DQC plan proposed to implement the requirements of ER 1165-2-217. Design will be permitted to begin only after acceptance of the DQC plan and other Contract requirements. Update and maintain the DQC plan throughout the Contract Period of Performance, including but not limited to any time personnel called out in the plan change. If personnel listed in the DQC plan change, the individual or individuals must be replaced with personnel of equal or greater experience, unless a specific exception is made by the Contracting Officer. All changes to the DQC plan must be accepted by the Contracting Officer before they are implemented.

1.5.3.1 DQC Plan Requirements

The DQC Plan must at a minimum include the following:

a. Project description.

A brief scope of the project with anticipated services required and specific features of work. Provide enough detail that someone unfamiliar with the project can view the description and gain a basic understanding of the project's goals, primary features of work, and major constraints.

b. Specific actions to be taken to ensure high-quality services and products are conducted and produced on-time and within budget.

These actions must ensure: correct application of methods, validity of assumptions, adequacy of base data, correctness of calculations (meaning the calculations are free of errors), completeness of documentation, appropriate design criteria are satisfied and sound engineering practice is used for all testing, modeling, assumptions, calculations, text, and graphic presentations in all documents, compliance with guidance and standards, and that constructability, operability, environmental, sustainability, and contract administration considerations have been accounted for.

- c. Criteria and assumptions required to complete services and products.
- d. Critical items necessary to accomplish the project.
- e. Inherent project risks.
- f. Independently identify all sub-contractor work.
- g. Identification and discussion of all organizational and technical interfaces.
- h. Design team members, including Designers of Record.

In addition to the design team member's name include the member's area of responsibility, contact information, professional registration information, and a brief resume of applicable experience.

- i. List of the required quality control reviews, as required by ER 1165-2-217.

Additional information describing requirements for individual reviews can be found in Specification Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD). The mention or omission of specific reviews or requirements in the Specifications does not alleviate the Contractor from applicable requirements outlined in ER 1165-2-217. Please note that all Quality Control responsibilities are held by the Contractor and all Government involved reviews are defined in the Contract Documents. The Contractor is not allowed to obligate the Government to any reviews not outlined in the Contract documents; however, at the Contracting Officer's discretion, the Government may choose to engage in informal reviews to ensure the design is meeting Contract requirements.

- j. Quality control review team members. This will include the design quality control manager, alternate design quality control manager, and design quality control reviewers as also described in Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD). If the Task Order specifies that an Independent Technical Review is required, these review members will also be included with this item.

In addition to the quality control review team member's name include the member's area of responsibility, contact information, professional registration information, and a brief resume of applicable experience.

- k. Team member(s) responsible for checking electronic files.

Ensure files have the appropriate file format, can be opened and are not corrupted, and that electronic files are named appropriately and in a manner consistent throughout the project.

- l. Project schedule showing key milestones and decision points.

Include the design schedule in the master project schedule, showing the sequence of events involved in carrying out the project design tasks within the specific Contract period. Schedule must include sufficient detail to identify all major

design tasks, including those that control the flow of work. Include review and correction periods associated with each item. Schedule must be a forward planning as well as a project monitoring tool. The schedule reflects calendar days and not dates for each activity. If the design schedule is changed, submit a revised schedule reflecting the change within 7 calendar days.

m. Quality control checklists.

Checklists may be used as a component of design quality control; however, the design quality control review must include quality control beyond these checklists. This review beyond the checklists must be demonstrated in the review records provided as part of the Design Analysis. It is the Contractor's responsibility to ensure quality control checklists conform to all standards outlined in the RFP. Government acceptance of a checklist as part of the Design Quality Control Plan does not represent acceptance of design directions incorporated into the checklist.

n. Certification templates for all quality control reviews.

At a minimum this is to include a Design Quality Control certification and an Independent Technical Review certification.

o. Communication and Issue Resolution Plan.

The Communication and Issue Resolution Plan will outline how unaddressed concerns will be escalated and resolved. Issues are to be resolved at the lowest possible level of hierarchy. Outline a clear procedure for resolving conflicting opinions between the Contractor's design team and construction team.

p. Documentation from quality reviews, appended to the design quality control plan as reviews occur.

See Specification Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD) for review documentation requirements. Review documentation requirements will be the same for both the Design Analysis document and the design quality control plan.

1.5.4 Contractor Quality Control (CQC) Plan

Submit no later than 30 days after receipt of notice to proceed, the CQC Plan proposed to implement the requirements FAR 52.246-12 Inspection of Construction. The Government will consider an interim plan for the first 120 days of operation. Design and Construction will be permitted to begin only after acceptance of the CQC Plan and other Contract requirements 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. Design work is not permitted to start prior to approval of a Design Quality Control Plan.

1.5.4.1 Content of Contractor Quality Control (CQC) Plan

Provide a CQC Plan, prior to start of construction that includes a table of contents, with major sections identified, pages numbered sequentially, and

that documents the proposed methods and responsibilities for accomplishing quality control during the construction of the project. The CQC Plan must at a minimum include the following sections:

- a. A description of the quality control organization and acknowledgment that the CQC staff will implement the three phase control system for all aspects of the work specified.
- b. An organizational chart showing the quality control organization with individual names and job titles and lines of authority up to an executive of the company at the home office.
- c. NAMES AND QUALIFICATIONS: Names and qualifications, in resume format, (including position titles and durations for qualifying experiences) for each person in the QC organization. Include the Construction Quality Management (CQM) for Contractors course certifications for the QC personnel as required by the paragraph CONSTRUCTION QUALITY MANAGEMENT TRAINING.
- d. DUTIES, RESPONSIBILITY AND AUTHORITY OF QC PERSONNEL: Duties, responsibilities, and authorities of each person in the QC organization.
- e. OUTSIDE ORGANIZATIONS: A listing of outside organizations, such as architectural and consulting engineering firms, that will be employed by the Contractor and a description of the services these firms will provide.
- f. APPOINTMENT LETTERS: Letters signed by an officer of the firm appointing the QC Manager and Alternate QC Manager, Design Quality Control Manager, and stating that they are responsible for implementing and managing the QC program as described in this Contract. Include in this letter the responsibility of the QC Manager and Alternate QC Manager to implement and manage the three phases of control, and their authority to stop work that is not in compliance with the Contract. Letters of direction are to be issued by the QC Manager to all other QC Specialists or quality control representatives outlining their duties, authorities, and responsibilities. Include copies of the letters in the QC Plan.
- g. SUBMITTAL PROCEDURES AND INITIAL SUBMITTAL REGISTER: Procedures for reviewing, approving, scheduling, and managing submittals, including those of subcontractors, designers of record, consultants, architect-engineers (AE), offsite fabricators, suppliers, and purchasing agents. Provide the name(s) of the person(s) in the QC organization authorized to review and certify submittals prior to approval. Provide the initial submittal of the Submittal Register as specified in Section 01 33 00 SUBMITTAL PROCEDURES.
- h. TESTING LABORATORY INFORMATION: Testing laboratory information required by the paragraph ACCREDITATION REQUIREMENTS, as applicable.
- i. TESTING PLAN AND LOG: A Testing Plan and Log that includes the tests required, associated feature of work required, referenced by the specification paragraph number requiring the test, the frequency, and the person responsible for each test.
- j. Procedures to complete design and construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been

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

- k. Reporting procedures, including proposed reporting formats.
 - l. Procedures for submitting and reviewing design changes/variations prior to submission to the Contracting Officer.
 - m. LIST OF DEFINABLE FEATURES OF WORK: A Definable Feature of Work (DFOW) is a task that is separate and distinct from other tasks and has control requirements and work crews unique to that task. A DFOW is identified by different trades or disciplines, or it is work by the same trade in a different environment. A DFOW is by definition any item or activity on the construction schedule, and the schedule specification provides direction regarding how the DFOWs are to be structured. Include in the list of DFOWs for all activities on the Construction Schedule. Provide separate DFOWs in the Network Analysis Schedule for each design development stage and submittal package. 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. Identify the specification section number and schedule activity ID for each DFOW listed. The DFOW list will be reviewed in coordination with the construction schedule and agreed upon during the Coordination and Mutual Understanding Meeting.
 - n. PROCEDURES FOR PERFORMING AND TRACKING THE THREE PHASES OF CONTROL: Identify procedures used to ensure the three phases of control to manage the quality on this project. For each Definable Feature of Work (DFOW), a Preparatory and Initial phase checklist will be filled out during the Preparatory and Initial phase meetings. Conduct the Preparatory and Initial Phases and meetings with a view towards obtaining quality construction by planning ahead and identifying potential problems for each DFOW.
 - o. PROCEDURES FOR COMPLETION INSPECTION: Procedures for identifying and documenting the completion inspection process. Include in these procedures the responsible party for punch out inspection, pre-final inspection, and final acceptance inspection.
 - p. TRAINING PROCEDURES AND TRAINING LOG: Procedures for coordinating and documenting the training of personnel required by the Contract.
 - q. ORGANIZATION AND PERSONNEL CERTIFICATIONS LOG: Procedures for coordinating, tracking and documenting all certifications required for entities such as subcontractors, testing laboratories, suppliers, and personnel. The QC Manager will ensure that certifications are current, appropriate for the work being performed, and will not lapse during any period of the Contract that the work is being performed.
- 1.5.5 Acceptance of the Quality Control (QC) and Design Quality Control (DQC) Plan

The Contracting Officer's acceptance of the Contractor QC Plan, or interim plan applicable to the particular feature of work to be started, and Design Quality Control Plan is required prior to the start of design and construction. 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. The Contracting Officer reserves the right to require changes in the QC and DQC Plan and operations as necessary, including removal or addition of personnel, to ensure the specified quality of work. The Contracting Officer reserves the right to interview any member of the QC and DQC organization at any time to verify the submitted qualifications. All QC and DQC organization personnel are subject to acceptance by the Contracting Officer. The Contracting Officer may require the removal of any individual for non-compliance with quality requirements specified in the Contract.

1.5.6 Notification of Changes

Notify the Contracting Officer, in writing, of any proposed changes in the QC Plan or changes to the QC organization personnel. Proposed changes are subject to acceptance by the Contracting Officer.

1.6 QUALITY CONTROL (QC) ORGANIZATION

1.6.1 Personnel Requirements

The requirements for the CQC organization are a Site Safety and Health Officer (SSHO), QC Manager, a Design Quality Manager, and enough qualified personnel to ensure safety and Contract compliance. The SSHO reports directly to a senior project (or corporate) official independent from the QC Manager. The SSHO will also serve as a member of the CQC Staff Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly. The CQC staff always maintains a presence at the site 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 for always maintaining these documents and records at the site, except as otherwise acceptable to the Contracting Officer.

1.6.1.1 Role Independence

None of the following roles can be filled by the same individual: the Site Safety and Health Officer (SSHO), the Quality Control (QC) Manager, and the Construction Superintendent. Furthermore the SSHO must be independent from any other role for the project. Personnel with design production responsibilities are not allowed to serve as design reviewers. Exceptions to each of these restrictions must be specifically authorized in writing by the Contracting Officer.

Any roles not prohibited from being the same person may be requested to be a dual-hat position. Submit a request to the Contracting Officer with any dual-hat requests prior to submitting the Design Quality Control Plan.

1.6.2 Quality Control (QC) Manager

1.6.2.1 Duties

Provide a QC Manager at the work site to implement and manage the QC program. The QC Manager must be employed by the Prime Contractor. In addition to implementing and managing the QC program, the QC Manager may

perform the duties of the Environmental Manager required by 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS. Otherwise, the only duties and responsibilities of the QC Manager are to manage and implement the QC program on this Contract. The QC Manager must attend the Coordination and Mutual Understanding Meeting, perform the three phases of control, perform submittal review and approval, ensure testing is performed and provide QC certifications and documentation required in this Contract. The QC Manager is responsible for managing and coordinating the three phases of control and documentation performed by the QC Specialists, testing laboratory personnel and any other inspection and testing personnel required by this Contract. The QC Manager is the manager of all QC activities.

1.6.2.2 Qualifications

The QC Manager must be an individual with a minimum of 10 years combined experience in the following positions: Project Superintendent, QC Manager, Project Manager, Project Engineer or Construction Manager on similar size and type construction Contracts which included the major trades that are part of this Contract. The individual must have at least 4 years experience as a QC Manager. The individual must be familiar with the requirements of EM 385-1-1 and have experience in the areas of hazard identification, safety compliance, and sustainability.

The QC Manager and all members of the QC organization must be capable of reading, writing, and conversing fluently in the English language.

1.6.2.3 Construction Quality Management Training

In addition to the above experience and education requirements, the QC Manager and Alternate QC Manager must have completed the CQM for Contractors course. If the QC Manager does not have a current certification, obtain the CQM for Contractors course certification within 90 days of award. This course is periodically offered by the Naval Facilities Engineering Systems Command and the Army Corps of Engineers. Contact the Contracting Officer for information on the next scheduled class.

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

1.6.3 Organizational Changes

Maintain the QC staff with personnel as required by the specification section at all times. When it is necessary to make changes to the QC staff, revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

1.6.4 Design Quality Control (DQC) Manager

The DQC Manager must be a member of the QC organization, must coordinate actions with the QC Manager, and must not be subordinate to the Project Superintendent or the Project Manager. Refer to table titled "EXPERIENCE MATRIX" below for qualification requirements.

1.6.4.1 Responsibilities

- a. Be responsible for the design integrity, professional design standards, and all design services required.

- b. Cannot serve as the QC Manager, the SSHO, the Design PM, nor a DOR.

1.6.5 Design and Review Team Qualifications

The following table represents the minimum qualifications required for the Contractor's design and design review teams. If a position is not included in the table and is not outlined elsewhere in the Contract documents, it is the responsibility of the Contractor to assign personnel with appropriate levels of education, experience, and professional certifications and licensure for the roles to which they are assigned.

TABLE 1: Design and Review Team Experience Matrix		
1. Area	2-1. Qualification 2-2. Experience	3-1. Area of Responsibility 3-2. Role Restrictions
Design Project Manager	2-1. Professional engineer registration for Civil Engineering in the state in which project construction will occur, and 2-2. 5 years experience in the type of work being performed on this project, with a minimum 2 years experience as a Design Project Manager	3-1. Area of Responsibility: Team coordination 3-2. DOR may also serve as the Design Project Manager
Design Quality Control Manager	2-1. Professional engineer registration for Civil Engineering in the state in which project construction will occur, and 2-2. 7 years experience in the type of work being performed on this project	3-1. Area of Responsibility: Design quality reviews 3-2. DOR may not serve as the Design Quality Control Manager
Civil Designer of Record	2-1. Professional engineer registration for Civil Engineering in the state in which project construction will occur, and 2-2. 5 years experience in the type of work being performed on this project	3-1. Area of Responsibility: Design authority 3-2. DOR may not serve as the Design Quality Control Manager

Civil Design Quality Control Reviewer	2-1. Professional engineer registration for Civil Engineering in the state in which project construction will occur, and 2-2. 7 years experience in the type of work being performed on this project	3-1. Area of Responsibility: Design quality 3-2. Design Quality Control Reviewer may not be part of producing the product being reviewed
Other Design Quality Control Reviewer(s)	2-1. Professional registration appropriate for the discipline or component being reviewed in the state in which project construction will occur, and 2-2. 6 years experience in the type of work being performed on this project in the discipline being reviewed	3-1. Area of Responsibility: Design quality 3-2. Design Quality Control Reviewer may not be part of producing the product being reviewed
FOR INFORMATION ONLY --- Independent Technical Review Reviewer(s) --- ITR IS NOT REQUIRED FOR THIS TASK ORDER	FOR INFORMATION ONLY --- 2-1. Professional engineer registration for discipline in the state in which project construction will occur, and 2-2. 10 years experience in the type of work being performed on this project	FOR INFORMATION ONLY --- 3-1. Area of Responsibility: Design quality and criteria conformance 3-2. Independent Technical Review Reviewer must be organizationally outside the proponent responsible for day-to-day work on the project; cannot be the same as the Design Quality Control Reviewer(s)

1.6.6 Other Project Team Qualification Requirements

TABLE 2: Other Teams Experience Matrix		
1. Area	2-1. Qualification 2-2. Experience	3-1. Area of Responsibility 3-2. Role Restrictions

Surveyor	2-1. Professional Land Surveyor in the state in which project construction will occur, and 2-2. 5 years experience in the type of work being performed on this project	3-1. Area of Responsibility: Survey accuracy, quality, and completeness 3-2. The surveyor may serve as a design quality control reviewer for surveying only, to ensure the plans and specifications are accurately portraying existing conditions as surveyed
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The absence of a role from the experience matrix does not necessarily mean that there are no qualification requirements for that position. Use industry standard practice to help inform which positions require qualification restrictions. During design reviews, the Contracting Officer reserves the right to specify positions that require specific qualifications, informed by the submitted design package and construction plan.

1.6.7 Alternate Quality Control (QC) Manager Duties and Qualifications

Designate an alternate for the QC Manager at the work site to serve in the event of the designated QC Manager's absence. The qualification requirements for the Alternate QC Manager must be the same as for the QC Manager.

1.7 SUBMITTAL AND DELIVERABLES REVIEW AND APPROVAL

Procedures for submission, review and approval of submittals are described in Section 01 33 00 SUBMITTAL PROCEDURES. Procedures must include field verification of relevant dimensions and component characteristics by the QC organization prior to submittal being sent to the Contracting Officer. The CQC organization is responsible for certifying that all submittals and deliverables are in compliance with the Contract.

1.8 THREE PHASES OF CONTROL

CQC enables the Contractor to ensure that the construction, including that of subcontractors and suppliers, complies with the requirements of the Contract. At least three phases of control must be conducted by the QC Manager to adequately cover both on-site and off-site work for each definable feature of the construction work as follows:

1.8.1 Preparatory Phase

Document the results of the preparatory phase actions by separate minutes prepared by the QC Manager and attach to the daily CQC report. Instruct applicable workers as to the acceptable level of workmanship required to meet Contract specifications.

Notify the Contracting Officer at least 2 business days in advance of each preparatory phase meeting. The meeting will be conducted by the QC Manager and attended by the SSHO, QC Specialists, the Project Superintendent, and the foreman responsible for the DFOV. When the DFOV will be accomplished by a subcontractor, that subcontractor's foreman must attend the preparatory phase meeting. 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. Perform the following prior to beginning work on each DFOW:

- a. Review each paragraph of the applicable specification sections, 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 the Contract drawings.
- c. Verify that field measurements are as indicated on construction or shop drawings or both before confirming product orders, to minimize waste due to excessive materials.
- d. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved. Verify receipt of approved factory test results, when required.
- e. Review the testing plan and ensure that provisions have been made to provide the required QC testing.
- f. Examine the work area to ensure that the required preliminary work has been completed and complies with the Contract and ensure any deficiencies/rework items in the preliminary work have been corrected and confirmed by the Contracting Officer.
- g. Review coordination of product/material delivery to designated prepared areas to execute the work.
- h. Examine the required materials, equipment and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data and are properly stored.
- i. Check to assure that all materials and equipment have been tested, submitted, and approved.
- j. Discuss specific controls to be used, construction methods, construction tolerances, workmanship standards, and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each DFOW. Ensure any portion of the plan requiring separate Contracting Officer acceptance has been approved.
- k. Review the APP and appropriate Activity Hazard Analysis (AHA) to ensure that applicable safety requirements are met, and that required Safety Data Sheets (SDS) are submitted.
- l. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- m. Discuss schedule and execution of the initial control phase and confirmation or construction quality compliance.

1.8.2 Initial Phase

Notify the Contracting Officer at least 2 business days in advance of each initial phase. When construction crews are ready to start work on a DFOW, conduct the initial phase with the QC Manager, SSHO, QC Specialists, the Project Superintendent, and the foreman responsible for that DFOW. Observe the initial segment of the DFOW to ensure that the work complies with Contract requirements. Document the results of the initial phase in the daily CQC Report and in the Initial Phase Checklist. Repeat the initial phase for each new crew to work on-site when acceptable levels of specified quality are not being met. Indicate the exact location of initial phase for definable feature of work for future reference and comparison with follow-up phases. Perform the following for each DFOW:

- 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 comply with the Contract.
- c. Establish level of workmanship and verify that it meets the minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve any workmanship issues.
- e. Ensure that testing is performed by the approved laboratory.
- f. Check work procedures for compliance with the APP and the appropriate AHA to ensure that applicable safety requirements are met.
- g. Review project specific work plans (i.e., HAZMAT Abatement, Stormwater Management) to ensure all preparatory work items have been completed and documented.

1.8.3 Follow-Up Phase

Perform the following for on-going DFOW daily, or more frequently as necessary, until the completion of each DFOW. The Final Follow-Up for any DFOW will clearly note in the daily report the DFOW is completed, and all deficiencies/rework items have been completed in accordance with the paragraph DEFICIENCY/REWORK ITEMS LIST. Each DFOW that has completed the Initial Phase and has not completed the Final Follow-up must be included on each daily report. If no work was performed on that DFOW for the period of that daily report, it must be so noted. Document all Follow-Up activities for DFOWs in the daily CQC Report:

- a. Ensure the work including control testing complies with Contract requirements until completion of that particular work feature. Record checks in the CQC documentation.
- b. Maintain the quality of workmanship required.
- c. Ensure that testing is performed by the approved laboratory.
- d. Ensure that deficiencies/rework items are being corrected. 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.

- e. Do not build upon nor conceal non-conforming work.
- f. Assure manufacturers' representatives have performed necessary inspections if required and perform safety inspections.

1.8.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same DFOW if the quality of on-going work is unacceptable, if there are changes in the applicable QC organization, if there are changes in the on-site production supervision or work crew, if work on a DFOW has not started within 45 days of the initial preparatory meeting or has resumed after 45 days of inactivity, or if other problems develop.

1.8.5 Notification of Three Phases of Control for Off-Site Work

Notify the Contracting Officer at least 2 weeks prior to the start of the preparatory and initial phases.

1.8.6 Deficiency/Rework Items List

The QC Manager must maintain a list of work that does not comply with the Contract, identifying what items need to be corrected, the activity ID number associated with the item, the date the item was originally discovered, the date the item will be corrected by, and the date the item was corrected.

The QC Manager reviews the list at each weekly QC Meeting:

- a. There is no requirement to report a deficiency/rework item that is corrected the same day it is discovered.
- b. No successor task may be advanced beyond the preparatory phase meeting until all deficiencies/rework items have been cleared by the QC Manager and concurred with by the Contracting Officer. This must be confirmed as part of the Preparatory Phase activities.
- c. Attach a copy of the "Deficiency/Rework Items List" to the last daily CQC Report of each month.
- d. The Contractor is responsible for including those items identified by the Contracting Officer.
- e. All deficiencies/rework items must be confirmed as corrected by the QC Manager, and concurred by the Contracting Officer, prior to commencement of any completion inspections per paragraph COMPLETION INSPECTIONS unless specifically exempted by the Contracting Officer.
- f. Non-Compliance with these requirements is grounds for removal in accordance with paragraph ACCEPTANCE OF THE QUALITY CONTROL (QC) and DESIGN QUALITY CONTROL (DQC) PLAN.
- g. All delays, concurrent or related to failure to manage, monitor, control, and correct deficiencies/rework items are entirely the responsibility of the Contractor and can not be made the subject, or any component of any request for additional time or compensation.

1.9 TESTING

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 an U.S. Army Corps of Engineers approved testing laboratory. 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 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.

1.9.1 Laboratory Accreditation Authorities

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>

1.9.2 Capability Check

The Contracting Officer retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this Contract. Laboratories utilized for testing soils, concrete, asphalt, and steel must meet criteria detailed in ASTM D3740 and ASTM E329.

1.9.2.1 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge to reimburse the Government for the cost of 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.

1.9.3 Test Results

Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements. If the item fails to conform, notify the Contracting Officer immediately. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable. Test results must be signed by a testing laboratory representative authorized to sign certified test reports. Furnish the signed reports, certifications, and other documentation to the Contracting Officer via the QC Manager.

1.10 COMPLETION INSPECTIONS

1.10.1 Punch-Out Inspection

Near the completion of all work or any increment thereof, established by a completion time stated in the Contract Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the QC Manager must conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings, specifications, and Contract. Include in the punch list any remaining items on the "Deficiency/Rework Items List", that were not corrected prior to the Punch-Out Inspection as approved by the Contracting Officer in accordance with the paragraph DEFICIENCY/REWORK ITEMS LIST. Include within the punch list the estimated date by which the deficiencies will be corrected. Provide a copy of the punch list to the Contracting Officer.

The QC Manager, or staff, must make follow-on inspections to ascertain that all deficiencies have been corrected. All punch list items must be confirmed as corrected by the QC Manager and concurred by the Contracting Officer. Once this is accomplished, notify the Government that the facility is ready for the Government "Pre-Final Inspection".

1.10.2 Pre-Final Inspection

The Government and QC Manager will perform this inspection to verify that the facility is complete and ready to be occupied. A Government "Pre-Final Punch List" will be documented by the QC Manager as a result of this inspection. The QC Manager will ensure that all items on this list are corrected and concurred by the Contracting Officer prior to notifying the Government that a "Final" inspection with the Client can be scheduled. All items noted on the "Pre-Final" inspection must be corrected and concurred by the Contracting Officer in a timely manner and be accomplished before the Contract completion date for the work, or any increment thereof, if the project is divided into increments by separate completion dates unless exceptions are directed by the Contracting Officer.

1.10.3 Final Acceptance Inspection

Notify the Contracting Officer at least 14 calendar days prior to the date a final acceptance inspection can be held. State within the notice that all items previously identified on the pre-final punch list will be corrected and acceptable, along with any other unfinished Contract work, by the date of the final acceptance inspection. The Contractor must be represented by the QC Manager, the Project Superintendent, and others deemed necessary. Attendees for the Government will include the Contracting Officer, other

Government QA personnel, and personnel representing the Client. 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 the Contract Clause entitled "Inspection of Construction."

1.11 QUALITY CONTROL (QC) CERTIFICATIONS

1.11.1 Contractor Quality Control (CQC) Report Certification

Contain the following statement within the CQC Report: "On behalf of the Contractor, I certify that this report is complete and correct and equipment and material used, and work performed during this reporting period is in compliance with the Contract drawings and specifications to the best of my knowledge, except as noted in this report."

1.11.2 Completion Certification

Upon completion of work under this Contract, the QC Manager must furnish a certificate to the Contracting Officer attesting that "the work has been completed, inspected, tested and is in compliance with the Contract." Provide a copy of this final QC Certification for completion to the preparer of the Operation & Maintenance (O&M) documentation.

1.12 DOCUMENTATION AND INFORMATION FOR THE CONTRACTING OFFICER

Maintain current and complete records of on-site and off-site QC program operations and activities.

1.12.1 Construction Documentation

Prepare a Construction Production Report and a Contractor Quality Control Report for each day that work is performed. Attach the Construction Production Report to the Contractor Quality Control Report prepared for the same day. Maintain current and complete records of on-site and off-site QC program operations and activities.

Account for each calendar day throughout the life of the Contract.

The Project Superintendent and the QC Manager must prepare and sign the Contractor Production and CQC Reports, respectively. Every space on the forms must be filled in. Use N/A if nothing can be reported in one of the spaces. The reporting of work must be identified by terminology consistent with the construction schedule. In the "Remarks" sections of the reports, enter pertinent information including directions received, problems encountered during construction, work progress and delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, delays encountered, a record of visitors to the work site, quality control problem areas, deviations from the QC Plan, construction deficiencies encountered, and meetings held. For each entry in the report(s), identify the Schedule Activity No. that is associated with the entered remark.

1.12.2 Quality Control Activities

CQC and Contractor Production reports will be prepared daily to 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 Contractors and any subcontractors.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When a Network Analysis Schedule (NAS) is used, identify each item of work performed each day by NAS activity number.
- d. Control phase activities performed. Preparatory, and Initial phase Checklists associated with the DFOW referenced to the construction schedule. Follow-up phase activities identified to the DFOW. If testing or specific QC Specialist activities are associated with the Follow-up phase activities for a specific DFOW note this and include those reports.
- e. Test and control activities performed with results and references to specifications and drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action in accordance with the paragraph DEFICIENCY/REWORK ITEMS LIST.
- f. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications and drawings requirements.
- g. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.
- h. Offsite surveillance activities, including actions taken.
- i. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- j. Instructions given/received and conflicts in plans and specifications.
- k. Provide documentation of design quality control activities. For independent design reviews, provide, as a minimum, identification of the Independent Technical Review (ITR) team and their review comments, responses and the record of resolution of the comments.

1.12.3 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 Government by 10:00 AM the next working day after the date covered by the report. 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 QC Manager. Include copies of test reports and copies of reports prepared by all subordinate quality control personnel

within the QC Manager Report.

1.12.4 Reports from the Quality Control (QC) Specialist(s)

Document inspection results on a QC specialist report prepared each day work is performed in their area of responsibility. The report must include a description of the visual inspection or observation performed, a written summary of findings, a conclusion on compliance with the Contract documents, and signature of the QC Specialist. In person inspections must be documented with Video/photographs. Video/photographic documentation of deficiencies must include before and after conditions and physical measurements, as necessary. Forward the QC daily report to the QC Manager who must include the report with the submission of their daily QC Report to the Government each day. Every site visit by the QC Specialist must be documented on a QC Specialist daily report.

1.12.5 Quality Control Validation

Establish and maintain the following in an electronic folder. Divide folder into a series of tabbed sections as shown below. Ensure folder is updated at each required progress meeting.

- a. CQC Meeting minutes in accordance with paragraph QUALITY CONTROL (QC) MEETINGS.
- b. All completed Preparatory and Initial Phase Checklists, arranged by specification section, further sorted by DFOV referenced to the construction schedule. Submit each individual Phase Checklist the day the phase event occurs as part of the CQC daily report.
- c. All milestone inspections, arranged by Activity Number referenced to the construction schedule.
- d. An up-to-date copy of the Testing Plan and Log with supporting field test reports, arranged by specification section referenced to the DFOV to which individual reports results are associated. Individual field test reports will be submitted within 2 working days after the test is performed in accordance with the paragraph QUALITY CONTROL ACTIVITIES.
- e. Copies of all Contract modifications, arranged in numerical order. Also include documentation that modified work was accomplished.
- f. An up-to-date copy of the paragraph DEFICIENCY/REWORK ITEMS LIST.
- g. Upon commencement of Completion Inspections of the entire project or any defined portion, maintain up-to-date copies of all punch lists issued by the QC staff to the Contractor and subcontractors and all punch lists issued by the Government in accordance with the paragraph COMPLETION INSPECTIONS.

1.12.6 Testing Plan and Log

As tests are performed, the QC Manager will record on the "Testing Plan and Log" the date the test was performed and the date the test results were forwarded to the Contracting Officer. Attach a copy of the updated "Testing Plan and Log" to the last daily CQC Report of each month. Provide a copy of the final "Testing Plan and Log" to the preparer of the Operation & Maintenance (O&M) documentation.

1.12.7 As-Built Drawings

The QC Manager must ensure the as-built drawings, required by Section 01 78 00 CLOSEOUT SUBMITTALS are kept current on a daily basis and marked to show deviations which have been made from the Contract drawings. The as-built drawings document commences with the QC Manager ensuring all amendments, or changes to the Contract prior to Contract award are accurately noted in the initial document set creating the accurate baseline of the Contract prior to any work starting. Ensure each deviation has been identified with the appropriate modifying documentation (e.g., PC No., Modification No., Request for Information No.). The QC Manager must initial each revision. Upon completion of work, the QC Manager will furnish a certificate attesting to the accuracy of the as-built drawings prior to submission to the Contracting Officer.

1.13 NOTIFICATION ON NON-COMPLIANCE

The Contracting Officer will notify the Contractor of any detected non-compliance with the Contract. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, is deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may 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 a claim for extension of time for excess costs or damages by the Contractor.

1.14 DELIVERY, STORAGE, AND HANDLING

Designate receiving/storage areas for incoming material to be delivered according to installation schedule and to be placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. Store and handle materials in a manner as to prevent loss from weather and other damage. Keep materials, products, and accessories covered and off the ground, and store in a dry, secure area. Prevent contact with material that may cause corrosion, discoloration, or staining. Protect all materials and installations from damage by the activities of other trades.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

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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

(2024) Safety -- Safety and Occupational
Health (SOH) Requirements

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

The Contractor must be prepared to transition from the Resident Management System (RMS) to the new Construction Management Platform (CMP) at any time during the period of performance of this contract, once the USACE enterprise implements this change. The Contractor's obligation to transition from RMS to the CMP system is a requirement of this contract. Therefore, additional time or cost increase to complete this transition will not be considered. In the event of the transition, RMS project information will be migrated to CMP by the government and available in the CMP system. After the transition, the Contractor must utilize the CMP system to perform all contract administration functions previously required in RMS, including all areas listed above. After the transition, "RMS" and "CMP" will be synonymous for all "Resident Management System" and "RMS"

references in this contract's specification. To facilitate the transition from RMS to CMP, online training for the CMP system will be made available to the Contractor with enough time to train staff, prior to the transition occurring.

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.

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-Price Construction Contracts; Section 01 32 01.00 10 PROJECT SCHEDULE; Section 01 33 00 SUBMITTAL PROCEDURES; Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS; and Section 01 45 00 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 seven calendar days of receiving access to the Contract in RMS or within seven 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 in accordance with Section 01 45 00 QUALITY CONTROL.

1.6.1.5 Reports

Track the status of the project using the reports available in RMS. The value of these reports reflects the quality of the data input. These reports include but are not limited to the Progress Payment Request worksheet, Quality Control (QC) comments, Deficiency Tracking Log, Submittal Register Status, and Three-Phase Control worksheets in accordance with Sections 01 20 00 PRICE AND PAYMENT PROCEDURES, Section 01 32 01.00 10 PROJECT SCHEDULE, 01 33 00 SUBMITTAL PROCEDURES, and 01 45 00 QUALITY CONTROL.

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. Provide status at weekly progress meeting in accordance with Section 01 32 01.00 10 PROJECT SCHEDULE.

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 in accordance with Section 01 32 01.00 10 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.

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. Link each deficiency and QC test to a pay activity. 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. Ensure that RMS reflects all quality control methods, tests and actions contained within the Contractor Quality Control (CQC) Plan and Government review comments. Provide within seven 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 additional 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.

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, and upload meeting minutes of the meetings. 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. Prepare activity hazard analysis in accordance with Section 01 35 26 GOVERNMENT SAFETY REQUIREMENTS.

1.6.4 Submittal Management

Enter all current submittal register data and information into RMS within seven calendar days of receiving access to the Contract in RMS. Contractor is responsible for entering Activity Numbers for each submittal item corresponding to their Project Schedule such that submittal delivery is linked to their Project Schedule in RMS. The Contractor will initially import the information shown in the Government provided submittal register following the specification Section 01 33 00 SUBMITTAL PROCEDURES unless otherwise directed by the Contracting Officer. 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.

Enter all submittals as listed in the approved design's submittal register within 14 calendar days of design approval for construction.

Contractor may request submittals to be added to RMS throughout the lifecycle of the project. Approval/disapproval of Contractor requests is at the discretion of the Contracting Officer. Submittals entry into RMS must be updated daily or as practical for performance of the Contract, as approved 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 seven 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 50 00

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS

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.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2026; TIA 26-1; ERTA 26-1; TIA 26-2; TIA 26-3; TIA 26-4; TIA 26-5; TIA 26-6; TIA 26-7; ERTA 26-2; ERTA 26-3) National Electrical Code

NFPA 241 (2022; ERTA 22-1) Standard for Safeguarding Construction, Alteration, and Demolition Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2024) Safety -- Safety and Occupational Health (SOH) Requirements

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD (2023) Manual on Uniform Traffic Control Devices

1.2 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification 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

Construction Site Plan; G

Traffic Control Plan; G

Haul Road Plan; G

SD-06 Test Reports

Backflow Preventer Tests

SD-07 Certificates

Backflow Tester Certification

Backflow Preventers Certificate of Full Approval

1.3 CONSTRUCTION SITE PLAN

Prior to the start of work, submit for Government approval a Construction Site Plan. The plan must identify and detail the following:

- a. The primary off-site storage yard(s), showing the layout for the Contractor's office, equipment and material storage, temporary sanitary facilities, trash dumpsters, and designated worker parking.
- b. Access and haul routes from the storage yard(s) to the project areas. Identify stabilized construction entrances designed to prevent the tracking of mud onto public roadways.
- c. A typical work area layout showing the placement of safety fencing, traffic control devices, and erosion controls relative to a definable feature of work (e.g., an open trench).

1.4 BACKFLOW PREVENTERS CERTIFICATE

1.4.1 Backflow Tester Certificate

Prior to testing, submit to the Contracting Officer certification issued by the State or local regulatory agency attesting that the backflow tester has successfully completed a certification course sponsored by the regulatory agency. Tester must not be affiliated with a company participating in other phases of this Contract. The certificate must be current.

PART 2 PRODUCTS

2.1 TEMPORARY SIGNAGE

2.1.1 Warning Signs

Post temporary signs, tags, and labels to give workers and the public adequate warning and caution of construction hazards according to the EM 385-1-1. Attach signs to the perimeter fencing every 150 feet warning the public of the presence of construction hazards.

2.2 TEMPORARY TRAFFIC CONTROL

2.2.1 Haul Roads

Construct access and haul roads necessary for proper prosecution of the work under this Contract in accordance with EM 385-1-1. Construct with suitable grades and widths; avoid sharp curves, blind corners, and dangerous cross traffic. Submit haul road plan for approval. Provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control, although optional, must be adequate to ensure safe operation at all times. Location, grade, width, and alignment of construction and haul roads are subject to approval by the Contracting Officer. Lighting must be adequate to assure full and clear visibility for full width of haul road and work areas during any night work operations.

2.2.2 Barricades

Erect and maintain temporary barricades to limit public access to hazardous areas. Barricades are required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Securely place barricades clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

2.3 FENCING

Provide fencing along the construction site and at all open excavations and tunnels to control access by unauthorized personnel. Safety fencing must be highly visible to be seen by pedestrians and vehicular traffic. All fencing must meet the requirements of EM 385-1-1. Remove the fence upon completion and acceptance of the work.

2.4 TEMPORARY WIRING

Provide temporary wiring in accordance with EM 385-1-1, NFPA 241 and NFPA 70. Include monthly inspection and testing of all equipment and apparatus.

2.5 BACKFLOW PREVENTERS

Provide backflow preventers of type, design, size, and/or make conforming to requirements of the State or local regulatory authority. Backflow preventers must include certification of performance testing/evaluation in accordance with requirements of the governing authority.

PART 3 EXECUTION

3.1 AVAILABILITY AND USE OF UTILITY SERVICES

3.1.1 Temporary Utilities

The Contractor must provide their own utilities. Provide temporary utilities required for construction. Materials must be adequate for the required usage, not create unsafe conditions, and not violate applicable codes and standards.

3.1.2 Sanitation

Provide and maintain within the construction area minimum field-type sanitary facilities in accordance with EM 385-1-1. Locate the facilities behind the construction fence or out of the public view. Clean units and empty wastes at least once a week or more frequently into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility. Obtain approval from the system owner prior to discharge into a municipal, district, or commercial sanitary sewer system. Penalties or fines associated with improper discharge will be the responsibility of the Contractor. Coordinate with the Contracting Officer and follow station regulations and procedures when discharging into the station sanitary sewer system. Maintain these conveniences at all times. Include provisions for pest control and elimination of odors. Government toilet facilities will not be available to Contractor's personnel.

3.1.3 Telephone

Make arrangements and pay all costs for telephone facilities desired.

3.1.4 Fire Protection

Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials to minimize potential hazards.

3.2 TRAFFIC PROVISIONS

3.2.1 Maintenance of Traffic

Manage all traffic control in close coordination with the Town of Weaverville and the North Carolina Department of Transportation (NCDOT).

- a. Coordinate with the Town of Weaverville and NCDOT to secure all necessary approvals for work within the public right-of-way. At least 30 calendar days prior to the start of any work impacting traffic, submit a detailed, site-specific Traffic Control Plan for Government approval detailing the proposed controls to traffic movement for approval and for subsequent approval by the responsible road authority. The plan must be developed by a certified Work Zone Traffic Control Supervisor and comply with MUTCD, Part VI and the NCDOT Work Zone Traffic Control Guidance. Contractor may move oversized and slow-moving vehicles to the worksite provided requirements of the highway authority have been met.
- b. Conduct work so as to minimize obstruction of traffic, and maintain traffic on at least half of the roadway width at all times. Obtain approval from the Contracting Officer prior to starting any activity that will obstruct traffic. Notify the Town of Weaverville Public Works Department 48 hours prior to implementing any approved lane or road closure.
- c. Provide, erect, and maintain, at Contractor's expense, lights, barriers, signals, passageways, detours, Life Safety Signage, overhead protection, and other items that may be required by the authority having jurisdiction.
- d. Provide cones, signs, barricades, lights, or other traffic control devices and personnel required to control traffic. Do not use foil-backed material for temporary pavement marking because of its potential to conduct electricity during accidents involving downed power lines.

3.2.2 Protection of Traffic

Maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment the work, and the erection and maintenance of adequate warning, danger, and direction signs, will be as required by the State and local authorities having jurisdiction. Provide self-illuminated (lighted) barricades during hours of darkness. All personnel working in roadways will wear brightly-colored vests or other high visibility apparel in accordance with EM 385-1-1. Protect the

traveling public from damage to person and property. Minimize the interference with public traffic on roads selected for hauling material to and from the site. Investigate the adequacy of existing roads and their allowable load limit. Contractor is responsible for the repair of damage to roadways, curbs, sidewalks, or shoulders caused by its operations, to the satisfaction of the responsible road authority.

3.2.3 Dust Control

Dust control methods and procedures must be approved by the Contracting Officer. Coordinate dust control methods with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

3.3 REDUCED PRESSURE BACKFLOW PREVENTERS

Provide an approved reduced pressure backflow prevention assembly at each location where the Contractor taps into the public potable water supply.

Perform backflow preventer tests using test equipment, procedures, and certification forms conforming to those required by the State or local regulatory authority. Test and tag each reduced pressure backflow preventer upon initial installation (prior to continued water use) and at recurrent intervals required by the State or local regulatory authority thereafter. Tag must contain the following information: make, model, serial number, dates of tests, results, maintenance performed, and signature of tester. Record test results on certification forms conforming to requirements cited earlier in this paragraph.

3.4 CONTRACTOR'S TEMPORARY FACILITIES

Contractor is responsible for security of their property. Construction Office Trailers must be anchored to resist high winds and meet applicable state or local standards for anchoring mobile trailers. Coordinate anchoring with EM 385-1-1. The Contract Clause entitled "FAR 52.236-10, Operations and Storage Areas" and the following apply:

3.4.1 Administrative Field Offices

Provide and maintain any required administrative field office facilities within the construction area at the designated laydown site. Town of Weaverville office and warehouse facilities will not be available to the Contractor's personnel.

3.4.2 Storage Area

Construct a temporary (minimum 6 foot high) chain link fence around trailers and materials at the designated laydown site. Include visual screening, so that visibility through the fence is obstructed. Fence posts may be driven, in lieu of temporary bases, where soil conditions permit. Do not place or store trailers, materials, or equipment outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct supplemental storage area by the Contracting Officer away from the vicinity of the designated laydown site but within the limits of the construction work. Trailers, equipment, or materials must not be open to public view with the exception of those items which are in support of ongoing work on the current day. Except for limited exceptions approved by the Contracting Officer, do not stockpile materials outside the fence in preparation for the next day's work or park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, excavators, and like

equipment outside of the fenced area at the end of each work day.

Keep fencing in a state of good repair and proper alignment. If the Contractor elects to traverse grassed or unpaved areas which are not established roadways with construction equipment or other vehicles, cover the grassed or unpaved areas with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation must be at the Contractor's discretion. Mow and maintain grass located within the boundaries of the construction site for the duration of the project. Grass and vegetation along fences, structures, under trailers, and in areas not accessible to mowers must be edged or trimmed neatly.

3.4.3 Appearance of Trailers

- a. Trailers must be roadworthy and comply with all appropriate state and local vehicle requirements. Trailers which are rusted, have peeling paint or are otherwise in need of repair will not be allowed. Trailers must present a clean and neat exterior appearance and be in a state of good repair.
- b. Maintain the temporary facilities. Failure to do so will be sufficient reason to require their removal at the Contractor's expense.

3.5 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, furnish and erect temporary project safety fencing at the work site. Maintain the safety fencing during the life of the Contract and, upon completion and acceptance of the work, remove from the work site.

3.6 CLEANUP

Remove construction debris, waste materials, packaging material and the like from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away. Store all salvageable materials resulting from demolition activities within the fenced area described above or at the supplemental storage area. Neatly stack stored materials not in trailers, whether new or salvaged.

3.7 RESTORATION OF STORAGE AREA

Upon completion of the project remove the bulletin board, signs, barricades, haul roads, and all other temporary products from the site. After removal of trailers, materials, and equipment from within the fenced area, remove the fence. Restore areas used during the performance of the Contract to the original or better condition. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil and seeding as necessary.

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SECTION 01 57 19

TEMPORARY ENVIRONMENTAL CONTROLS

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. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.1053	Respirable Crystalline Silica
29 CFR 1910.1200	Hazard Communication
29 CFR 1926.1153	Respirable Crystalline Silica
40 CFR 50	National Primary and Secondary Ambient Air Quality Standards
40 CFR 60	Standards of Performance for New Stationary Sources
40 CFR 63	National Emission Standards for Hazardous Air Pollutants for Source Categories
40 CFR 64	Compliance Assurance Monitoring
40 CFR 112	Oil Pollution Prevention
40 CFR 122.26	Storm Water Discharges (Applicable to State NPDES Programs, see section 123.25)
40 CFR 241	Guidelines for Disposal of Solid Waste
40 CFR 243	Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste
40 CFR 258	Subtitle D Landfill Requirements
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 261.7	Residues of Hazardous Waste in Empty Containers
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 262.11	Hazardous Waste Determination and

Recordkeeping

40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 266	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 273	Standards for Universal Waste Management
40 CFR 279	Standards for the Management of Used Oil
40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
40 CFR 300.125	National Oil and Hazardous Substances Pollution Contingency Plan - Notification and Communications
40 CFR 355	Emergency Planning and Notification
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.2 DEFINITIONS

1.2.1 Class I and II Ozone Depleting Substance (ODS)

Class I ODS is defined in Section 602(a) and Class II ODS is defined in Section 602(s) of The Clean Air Act. A list of Class I and II ODS can be found on the EPA website at the following weblink.
<https://www.epa.gov/ozone-layer-protection/ozone-depleting-substances>.

1.2.2 Contractor Generated Hazardous Waste

Contractor generated hazardous waste is 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), waste thinners, excess paints, excess solvents, waste solvents, excess pesticides, and contaminated pesticide equipment rinse water.

1.2.3 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, or historically.

1.2.4 Environmental Protection

Environmental protection is the prevention and 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.

1.2.5 Hazardous Debris

As defined in paragraph SOLID WASTE, debris that contains listed hazardous waste (either on the debris surface, or in its interstices, such as pore structure) in accordance with 40 CFR 261. Hazardous debris also includes debris that exhibits a characteristic of hazardous waste in accordance with 40 CFR 261.

1.2.6 Hazardous Materials

Hazardous material is any material that: Is defined in 49 CFR 171, listed in 49 CFR 172, regulated as a hazardous material in accordance with 49 CFR 173; or requires a Safety Data Sheet (SDS) in accordance with 29 CFR 1910.1200; or during end use, treatment, handling, packaging, storage, transportation, or disposal meets or has components that meet or have potential to meet the definition of a hazardous waste as defined by 40 CFR 261 Subparts A, B, C, or D. Designation of a material by this definition, when separately regulated or controlled by other sections or directives, does not eliminate the need for adherence to that hazard-specific guidance which takes precedence over this section for "control" purposes. Such material includes ammunition, weapons, explosive actuated devices, propellants, pyrotechnics, chemical and biological warfare materials, medical and pharmaceutical supplies, medical waste and infectious materials, bulk fuels, radioactive materials, and other materials such as asbestos, mercury, and polychlorinated biphenyls (PCBs).

1.2.7 Hazardous Waste

Hazardous Waste is any material that meets the definition of a solid waste and exhibits a hazardous characteristic (ignitability, corrosivity, reactivity, or toxicity) as specified in 40 CFR 261, Subpart C, or contains a listed hazardous waste as identified in 40 CFR 261, Subpart D, or meets a state, local, or host nation definition of a hazardous waste.

1.2.8 Land Application

Land Application means spreading or spraying discharge water at a rate that 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. Comply with federal, state, and local laws and regulations.

1.2.9 Municipal Separate Storm Sewer System (MS4) Permit

MS4 permits are those held by municipalities or installations to obtain NPDES permit coverage for their stormwater discharges.

1.2.10 National Pollutant Discharge Elimination System (NPDES)

The NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

1.2.11 Oily Waste

Oily waste are those materials that are, or were, mixed with Petroleum, Oils, and Lubricants (POLs) and have become separated from that POLs. Oily wastes also means materials, including wastewaters, centrifuge solids, filter residues or sludges, bottom sediments, tank bottoms, and sorbents which have come into contact with and have been contaminated by, POLs and may be appropriately tested and discarded in a manner which is in compliance with other state and local requirements.

This definition includes materials such as oily rags, "kitty litter" sorbent clay and organic sorbent material. These materials may be land filled provided that: It is not prohibited in other state regulations or local ordinances; the amount generated is "de minimus" (a small amount); it is the result of minor leaks or spills resulting from normal process operations; and free-flowing oil has been removed to the practicable extent possible. Large quantities of this material, generated as a result of a major spill or in lieu of proper maintenance of the processing equipment, are a solid waste. As a solid waste, perform a hazardous waste determination prior to disposal. As this can be an expensive process, it is recommended that this type of waste be minimized through good housekeeping practices and employee education.

1.2.12 Pesticide

Pesticide is 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.

1.2.13 Solid Waste

Solid waste is a solid, liquid, semi-solid or contained gaseous waste. A solid waste can be a hazardous waste, non-hazardous waste, or non-Resource Conservation and Recovery Act (RCRA) regulated waste. Types of solid waste typically generated at construction sites may include:

1.2.13.1 Debris

Debris is non-hazardous solid material generated during the construction, demolition, or renovation of a structure that exceeds 2.5-inch particle size that is: a manufactured object; plant or animal matter; or natural

geologic material (for example, cobbles and boulders), broken or removed concrete, masonry, and rock asphalt paving; ceramics; roofing paper and shingles. Inert materials may be reinforced with or contain ferrous wire, rods, accessories and weldments. A mixture of debris and other material such as soil or sludge is also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

1.2.13.2 Green Waste

Green waste is the vegetative matter from landscaping, land clearing and grubbing, including, but not limited to, grass, bushes, scrubs, small trees and saplings, tree stumps and plant roots. Marketable trees, grasses and plants that are indicated to remain, be re-located, or be re-used are not included.

1.2.13.3 Non-Hazardous Waste

Non-hazardous waste is waste that is excluded from, or does not meet, hazardous waste criteria in accordance with 40 CFR 261.

1.2.13.4 Recyclables

Recyclables are materials, equipment and assemblies such as doors, windows, door and window frames, plumbing fixtures, glazing and mirrors that are recovered and sold as recyclable, wiring, insulated/non-insulated copper wire cable, wire rope, and structural components. It also includes commercial-grade refrigeration equipment with Freon removed, household appliances where the basic material content is metal, clean polyethylene terephthalate bottles, cooking oil, used fuel oil, textiles, high-grade paper products and corrugated cardboard, stackable pallets in good condition, clean crating material, and clean rubber/vehicle tires. Metal meeting the definition of "lead contaminated" or "lead based paint contaminated" may be included as recyclable only if the metal is handled and transported in accordance with regulations, and the facility receiving the material is permitted and authorized to accept and process lead contaminated materials. Paint cans that meet the definition of empty containers in accordance with 40 CFR 261.7 may be included as recyclable if sold to a scrap metal company.

1.2.13.5 Surplus Soil

Surplus soil is existing soil that is in excess of what is required for this work, including aggregates intended, but not used, for on-site mixing of concrete, mortars, and paving. Contaminated soil meeting the definition of hazardous material or hazardous waste is not included and must be managed in accordance with paragraph HAZARDOUS MATERIAL MANAGEMENT.

1.2.13.6 Scrap Metal

This includes scrap and excess ferrous and non-ferrous metals such as reinforcing steel, structural shapes, pipe, and wire that are recovered or collected and disposed of as scrap. Scrap metal meeting the definition of hazardous material or hazardous waste is not included.

1.2.13.7 Wood

Wood is dimension and non-dimension lumber, plywood, chipboard, hardboard. Treated or painted wood that meets the definition of lead contaminated or

lead based contaminated paint is not included. Treated wood includes, but is not limited to, lumber, utility poles, crossties, and other wood products with chemical treatment.

1.2.14 Surface Discharge

Surface discharge means discharge of water into drainage ditches, storm sewers, or creeks meeting the definition of "waters of the United States". Surface discharges from construction sites are discrete, identifiable sources and require a permit from the governing agency. Comply with federal, state, and local laws and regulations.

1.2.15 Wastewater

Wastewater is the aqueous liquid waste generated by a project, to include both domestic wastewater (sewage) and industrial wastewater.

1.2.15.1 Stormwater

Stormwater is any precipitation in an urban or suburban area that does not evaporate or soak into the ground, but instead collects and flows into storm drains, rivers, and streams.

1.2.16 Waters of the United States

Waters of the United States means Federally jurisdictional waters, including wetlands, that are subject to regulation under Section 404 of the Clean Water Act or navigable waters, as defined under the Rivers and Harbors Act.

1.2.17 Wetlands

Wetlands are 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.

1.2.18 Universal Waste

The universal waste regulations streamline collection requirements for certain hazardous wastes in the following categories: batteries, pesticides, mercury-containing equipment (for example, thermostats), and lamps (for example, fluorescent bulbs). The rule is designed to reduce hazardous waste in the municipal solid waste (MSW) stream by making it easier for universal waste handlers to collect these items and send them for recycling or proper disposal. These regulations can be found at 40 CFR 273.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" classification. Submittals not having a "G" classification are for information only. When used, a code following the "G" classification 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
Existing Feature Protection Plan

Regulatory Notifications

Environmental Manager Qualifications

Environmental Protection Plan; G

The EPP contains submittals not separately listed including the Work Area Plan, the Waste Management and Contaminant Prevention Plan, the Spill Prevention Control and Countermeasure Plan, and the Dirt and Dust Control Plan

Stormwater Pollution Prevention Plan (SWPPP); G

Stormwater Notice of Intent (for NPDES coverage under the general permit for construction activities)

Pre-Design Environmental Compliance Plan; G

SD-06 Test Reports

Inspection Reports

SD-07 Certificates

Erosion and Sediment Control Inspector Qualifications

SD-11 Closeout Submittals

Regulatory Notifications; G

Assembled Employee Training Records; G

Stormwater Pollution Prevention Plan Compliance Notebook; G

Stormwater Notice of Termination (for NPDES coverage under the general permit for construction activities); G

Waste Determination Documentation; G

Project Solid Waste Disposal Documentation Report; G

Disposal Documentation for Hazardous and Regulated Waste; G

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Protect the environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire duration of this Contract. Comply with federal, state, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

No trees greater than 3 inches diameter at breast height shall be removed without a prior assessment by a USACE biologist. Trees may contain

potential habitat for threatened and endangered bat species. Removal could require coordination with the U.S. Fish and Wildlife Service for compliance with the Endangered Species Act.

Removal of large trees is not anticipated due to the nature of the work being performed. However, removal of trees greater than 3 inches diameter at breast height requires approval from the Contracting Officer. Removal may require additional consultation with Federal Agencies. Follow restrictions issued from Federal Agencies as part of the consultation.

Tests and procedures assessing whether construction operations comply with Applicable Environmental Laws may be required. Analytical work must be performed by qualified laboratories; and where required by law, the laboratories must be certified.

1.5 QUALITY ASSURANCE

1.5.1 Preconstruction Survey and Protection of Features

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any onsite construction activities, perform an inspection of the project site with the Contracting Officer to identify existing features that require additional protection. Provide an Existing Feature Protection Plan for the project site, and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record. Include in the report a plan describing the features requiring protection under the provisions of the Contract Clauses 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. The Contractor and the Contracting Officer will sign this survey report upon mutual agreement regarding its accuracy and completeness. Protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference that their preservation may cause to the work under the Contract.

1.5.2 Regulatory Notifications

Provide regulatory notification requirements in accordance with federal, state and local regulations. In cases where the Government will also provide public notification (such as stormwater permitting), coordinate with the Contracting Officer. Submit copies of regulatory notifications to the Contracting Officer at least 30 calendar days prior to commencement of work activities. Typically, regulatory notifications must be provided for the following (this listing is not all-inclusive): demolition, renovation, NPDES defined site work, construction, removal or use of a permitted air emissions source, and remediation of controlled substances (asbestos, hazardous waste, lead paint).

1.5.3 Environmental Brief

Attend an environmental brief to be included in the preconstruction meeting. Provide the following information: types, quantities, and use of hazardous materials; and types and quantities of wastes/wastewater that may be generated during the Contract. Discuss the results of the Preconstruction Survey at this time.

Prior to initiating any work on site, meet with the Contracting Officer to

discuss the proposed Environmental Protection Plan (EPP) or equipment local requirement. Develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural and cultural resources, required reports, required permits, permit requirements (such as mitigation measures), and other measures to be taken.

1.5.4 Environmental Manager

Appoint in writing an Environmental Manager for the project site. The Environmental Manager is directly responsible for coordinating contractor compliance with federal, state, and local requirements. The Environmental Manager must ensure compliance with Hazardous Waste Program requirements (including hazardous waste handling, storage, manifesting, and disposal); implement the EPP; ensure environmental permits are obtained, maintained, and closed out; ensure compliance with Stormwater Program requirements; ensure compliance with Hazardous Materials (storage, handling, and reporting) requirements; and coordinate any remediation of regulated substances (lead, asbestos, PCB transformers). This can be a collateral position; however, the person in this position must be trained to adequately accomplish the following duties: ensure waste segregation and storage compatibility requirements are met; inspect and manage Satellite Accumulation areas; ensure only authorized personnel add wastes to containers; ensure Contractor personnel are trained in 40 CFR requirements in accordance with their position requirements; coordinate removal of waste containers; and maintain the Environmental Records binder and required documentation, including environmental permits compliance and close-out. Submit Environmental Manager Qualifications to the Contracting Officer.

1.5.5 Employee Training Records

Prepare and maintain Employee Training Records throughout the term of the contract meeting applicable 40 CFR requirements. Provide Employee Training Records in the Environmental Records Binder. Submit these Assembled Employee Training Records to the Contracting Officer at the conclusion of the project, unless otherwise directed.

Train personnel to meet North Carolina Department of Environmental Quality (NCDEQ) requirements. Conduct environmental protection/pollution control meetings for personnel prior to commencing construction activities. Conduct additional meetings 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, waters of the United States, and endangered species and their habitat that are known to be in the area. Provide copy of the Erosion and Sediment Control Inspector Certification as required by state of North Carolina.

1.5.6 Non-Compliance Notifications

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 EPP. After receipt of such notice, 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. FAR 52.242-14 Suspension of Work provides that a suspension, delay, or interruption of work due to the fault or negligence of the Contractor allows for no adjustments to the contract for time extensions or equitable adjustments. In addition to a suspension of work, the Contracting Officer may use additional authorities under the contract or law.

1.6 ENVIRONMENTAL PROTECTION PLAN

The purpose of the EPP is to present an overview of known or potential environmental issues that must be considered and addressed during construction. Include in the EPP measures for protecting natural and cultural resources, required reports, and other measures to be taken. Meet with the Contracting Officer to discuss the EPP and develop a mutual understanding relative to the details for environmental protection including measures for protecting natural resources, required reports, and other measures to be taken.

Submit the EPP within 15 days after acceptance of the corrected final design and not less than 15 days before construction mobilization onsite. Revise the EPP throughout the project to include any reporting requirements, changes in site conditions, or contract modifications that change the project scope of work in a way that could have an environmental impact. No requirement in this section will relieve the Contractor of any applicable federal, state, and local environmental protection laws and regulations. During Construction, identify, implement, and submit for approval any additional requirements to be included in the EPP. Maintain the current version onsite.

The EPP includes, but is not limited to, the following elements:

1.6.1 General Overview and Purpose

1.6.1.1 Descriptions

A brief description of each specific plan required by environmental permit or elsewhere in this Contract such as stormwater pollution prevention plan, spill control plan, solid waste management plan, wastewater management plan, air pollution control plan, a historical, archaeological, cultural resources, biological resources and wetlands plan, Hazardous, Toxic and Radioactive Waste (HTRW) Plan.

1.6.1.2 Duties

The duties and level of authority assigned to the person(s) on the job site who oversee environmental compliance, such as who is responsible for adherence to the EPP, who is responsible for spill cleanup and training personnel on spill response procedures, who is responsible for manifesting hazardous waste to be removed from the site (if applicable), and who is responsible for training the Contractor's environmental protection personnel.

1.6.1.3 Procedures

A copy of any standard or project-specific operating procedures that will be used to effectively manage and protect the environment on the project site.

1.6.1.4 Communications

Communication and training procedures that will be used to convey environmental management requirements to Contractor employees and subcontractors.

1.6.1.5 Contact Information

Emergency contact information contact information (office phone number, cell phone number, and e-mail address).

1.6.2 General Site Information

1.6.2.1 Drawings

Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, jurisdictional wetlands, material storage areas, structures, sanitary facilities, storm drains and conveyances, and stockpiles of excess soil.

1.6.2.2 Documentation

A letter signed by an officer of the firm appointing the Environmental Manager and stating that person is responsible for managing and implementing the Environmental Program as described in this contract. Include in this letter the Environmental Manager's authority to direct the removal and replacement of non-conforming work.

1.6.3 Management of Natural Resources

- a. Land resources
- b. Tree protection
- c. Replacement of damaged landscape features
- d. Temporary construction
- e. Stream crossings
- f. Fish and wildlife resources
- g. Wetland areas

1.6.4 Protection of Historical and Archaeological Resources

- a. Objectives
- b. Methods

1.6.5 Stormwater Management and Control

- a. Ground cover
- b. Erodible soils
- c. Temporary measures

- (1) Structural Practices

(2) Temporary and permanent stabilization

- d. Effective selection, implementation and maintenance of Best Management Practices (BMPs).
- e. Stormwater Pollution Prevention Plan (SWPPP).

1.6.6 Protection of the Environment from Waste Derived from Contractor Operations

This item consists of the management procedures for hazardous waste to be generated.

As a minimum, include the following:

- a. List of the types of hazardous wastes expected to be generated
- b. Procedures to ensure a written waste determination is made for appropriate wastes that are to be generated
- c. Sampling/analysis plan, including laboratory method(s) that will be used for waste determinations and copies of relevant laboratory certifications
- d. Methods and proposed locations for hazardous waste accumulation/storage (that is, in tanks or containers)
- e. Management procedures for storage, labeling, transportation, and disposal of waste (treatment of waste is not allowed unless specifically noted)
- f. Management procedures and regulatory documentation ensuring disposal of hazardous waste complies with Land Disposal Restrictions (40 CFR 268)
- g. Management procedures for recyclable hazardous materials such as lead-acid batteries, used oil, and similar
- h. Used oil management procedures in accordance with 40 CFR 279; Hazardous waste minimization procedures
- i. Plans for the disposal of hazardous waste by permitted facilities; and Procedures to be employed to ensure required employee training records are maintained.

1.6.7 Prevention of Releases to the Environment

Procedures to prevent releases to the environment

Notifications in the event of a release to the environment

1.6.8 Regulatory Notification and Permits

List what notifications and permit applications must be made. Some permits require up to 180 days to obtain. Demonstrate that those permits have been obtained or applied for by including copies of applicable environmental permits. The EPP will not be approved until the permits have been obtained.

1.6.9 Clean Air Act Compliance

1.6.9.1 Haul Route

Submit truck and material haul routes along with a Dirt and Dust Control Plan for controlling dirt, debris, and dust on roadways. As a minimum, identify in the plan the subcontractor and equipment for cleaning along the haul route and measures to reduce dirt, dust, and debris from roadways.

1.6.9.2 Pollution Generating Equipment

Identify air pollution generating equipment or processes that may require federal, state, or local permits under the Clean Air Act. Determine requirements based on regulations administered by the NCDEQ Division of Air Quality and the impacts of the project. Provide a list of all fixed or mobile equipment, machinery or operations that could generate air emissions during the project to the Contracting Officer. Ensure required permits are obtained prior to installing and operating applicable equipment/processes.

1.6.9.3 Stationary Internal Combustion Engines

Identify portable and stationary internal combustion engines that will be supplied, used or serviced. Comply with 40 CFR 60 Subpart IIII, 40 CFR 60 Subpart JJJJ, 40 CFR 63 Subpart ZZZZ, and local regulations as applicable. At minimum, include the make, model, serial number, manufacture date, size (engine brake horsepower), and EPA emission certification status of each engine. Maintain applicable records and log hours of operation and fuel use. Logs must include reasons for operation and delineate between maintenance/testing, emergency, and non-emergency operation.

1.6.9.4 Compliant Materials

Provide the Government a list of SDSs for all hazardous materials proposed for use on site. Materials must be compliant with all Clean Air Act regulations for emissions including solvent and volatile organic compound contents, and applicable National Emission Standards for Hazardous Air Pollutants requirements.

1.7 PRE-DESIGN ENVIRONMENTAL AND CULTURAL RESOURCES CONSIDERATIONS

Before the Initial Design Conference, create a Pre-design Environmental Compliance Plan describing how environmental and cultural resources will influence the design process. Include sections on known or anticipated existing resources and site conditions, how impacts to the resources will be evaluated, and how the design process will incorporate strategies to minimize, mitigate, or avoid potential impacts. Provide a comprehensive outline that describes environmental and cultural resource constraints, additional investigations that may be needed to document potential impacts and formulate mitigation strategies. Define specific Federal, State, and Local laws and regulations that apply to the project and identify project specific actions that will be taken to ensure compliance. Specific laws, regulations, and actions must be project specific and tailored to the proposed design. Changes to the proposed design must be evaluated for additional environmental and cultural resource impacts, and the Compliance Plan must be updated and resubmitted to account for all design changes. Document areas and features where additional coordination is likely to be required.

1.8 LICENSES AND PERMITS

Obtain licenses and permits required for the construction of the project and in accordance with FAR 52.236-7 Permits and Responsibilities. Notify the Government of all equipment that may require permits or special approvals that the Contractor plans to use on site. This paragraph supplements the Contractor's responsibility under FAR 52.236-7 Permits and Responsibilities.

1.9 ENVIRONMENTAL RECORDS BINDER

Maintain on-site a separate three-ring Environmental Records Binder and submit at the completion of the project. Make separate parts within the binder that correspond to each submittal listed under SD-11 CLOSEOUT SUBMITTALS in the SUBMITTALS subpart of this section.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

Minimize interference with, disturbance to, and damage to fish, wildlife, and plants, including their habitats. The protection of rare, threatened, and endangered animal and plant species identified, including their habitats, is the Contractor's responsibility.

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified.

3.1.1 Flow Ways

Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as specified and permitted.

3.1.2 Vegetation

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Contracting Officer's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attached ropes, cables, or guys is authorized, the Contractor is responsible for any resultant damage.

Protect existing trees and critical root zones (CRZ) that are to remain to ensure they are not injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. Coordinate with the Contracting Officer to determine appropriate action for trees and other landscape features scarred or damaged by equipment operations.

3.1.3 Streams

Stream crossings must allow movement of materials or equipment without

violating water pollution control standards of the federal, state, and local governments. Construction of stream crossing structures must be in compliance with all required permits including, but not limited to, Clean Water Act Section 404, and Section 401 Water Quality.

The Contracting Officer's approval and appropriate permits are required before any equipment will be permitted to ford live streams. In areas where frequent crossings are required, install temporary culverts or bridges. Obtain Contracting Officer's approval prior to installation. Remove temporary culverts or bridges upon completion of work, and repair the area to its original condition unless otherwise required by the Contracting Officer.

3.2 STORMWATER

Do not discharge stormwater from construction sites to the sanitary sewer. If the water is noted or suspected of being contaminated, it may only be released to the storm drain system if the discharge is specifically permitted. Obtain authorization in advance from the NCDEQ for any release of contaminated water.

3.2.1 Construction General Permit

Provide a Construction General Permit as required by 40 CFR 122.26 or the State of North Carolina General Permit. Under the terms and conditions of the permit, install, inspect, maintain BMPs, prepare stormwater erosion and sediment control inspection reports, and submit SWPPP inspection reports. Maintain construction operations and management in compliance with the terms and conditions of the general permit for stormwater discharges from construction activities.

3.2.1.1 Stormwater Pollution Prevention Plan

Submit a project-specific Stormwater Pollution Prevention Plan (SWPPP) to the Contracting Officer for approval, within 30 days of Construction Notice to Proceed (C-NTP) and prior to the commencement of work. The SWPPP must meet the requirements of 40 CFR 122.26 and the North Carolina State General Permit for stormwater discharges from construction sites.

Include the following:

- a. Comply with terms of the state general permit for stormwater discharges from construction activities. Prepare SWPPP in accordance with state requirements. Use NCDEQ Guidance and EPA guide Developing your Stormwater Pollution Prevention Plan located at <https://www.epa.gov/npdes/developing-stormwater-pollution-prevention-plan-swppp> to prepare the SWPPP.
- b. Select applicable BMPs from EPA Fact Sheets located at <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#constr> or in accordance with applicable state or local requirements.
- c. Include a completed copy of the Notice of Intent, BMP Inspection Report Template, and Stormwater Notice of Termination, except for the effective date.

3.2.1.2 Stormwater Notice of Intent for Construction Activities

Prepare and submit the Notice of Intent for NPDES coverage under the general permit for construction activities to the Contracting Officer for review and approval.

Submit the approved NOI and appropriate permit fees onto the appropriate federal or state agency for approval. No land disturbing activities may commence without permit coverage. Maintain an approved copy of the SWPPP at the onsite construction office, and continually update as regulations require, reflecting current site conditions.

3.2.1.3 Inspection Reports

Submit "Inspection Reports" to the Contracting Officer in accordance with the State of North Carolina Construction General Permit.

3.2.1.4 Stormwater Pollution Prevention Plan Compliance Notebook

Create and maintain a three ring binder of documents that demonstrate compliance with the Construction General Permit. Include a copy of the permit Notice of Intent, proof of permit fee payment, SWPPP and SWPPP update amendments, inspection reports and related corrective action records, copies of correspondence with the NCDEQ, and a copy of the permit Notice of Termination in the binder. At project completion, the notebook becomes property of the Government. Provide the compliance notebook to the Contracting Officer.

3.2.1.5 Stormwater Notice of Termination for Construction Activities

Submit a Notice of Termination to the Contracting Officer for approval once construction is complete and final stabilization has been achieved on all portions of the site for which the permittee is responsible. Once approved, submit the Notice of Termination to the appropriate state or federal agency.

3.2.2 Erosion and Sediment Control Measures

Provide erosion and sediment control measures in accordance with state and local laws and regulations, and as detailed in the approved Stormwater Pollution Prevention Plan (SWPPP). Preserve vegetation to the maximum extent practicable.

Erosion control inspection reports may be compiled as part of a stormwater pollution prevention plan inspection reports.

The Design-Build Contractor is responsible for the design, installation, and maintenance of all erosion and sediment control measures necessary to prevent the discharge of pollutants from the construction site. The selection and design of specific Best Management Practices (BMPs) shall be the responsibility of the Contractor and must be detailed in the SWPPP. Use of hay or straw bales for erosion or sediment control is prohibited.

3.2.3 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 that are not to be disturbed. Protect monuments and markers before construction operations commence. Where construction

operations are to be conducted during darkness, all markers must be visible in the dark. Personnel must be knowledgeable of the purpose for marking and protecting particular objects.

3.2.4 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. Move or relocate the Contractor facilities only when approved by the Government. Provide erosion and sediment controls for onsite borrow and spoil areas to prevent sediment from entering nearby waters. Control temporary excavation and embankments for plant or work areas to protect adjacent areas.

3.2.5 Municipal Separate Storm Sewer System (MS4) Management

Comply with the Town of Weaverville's MS4 permit requirements.

3.3 SURFACE AND GROUNDWATER

3.3.1 Waters of the United States

Do not enter, disturb, destroy, or allow discharge of contaminants into waters of the United States except as authorized herein. The protection of waters of the United States shown on the drawings in accordance with paragraph LICENSES AND PERMITS is the Contractor's responsibility. Authorization to enter specific waters of the United States identified does not relieve the Contractor from any obligation to protect other waters of the United States within, adjacent to, or in the vicinity of the construction site and associated boundaries.

3.4 PROTECTION OF CULTURAL RESOURCES

3.4.1 Archaeological Resources

If, during excavation or other construction activities, any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, activities that may damage or alter such resources will be 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. The Government retains ownership and control over archaeological resources. If archaeological materials or human remains are encountered, the information on the nature and location of these cultural resources must remain confidential. The penalties for knowingly violating or counseling, procuring, soliciting, or employing any other person to violate any of the PL 96-95 Archaeological Resources Protection Act (ARPA) prohibitions include fines between \$10,000 and imprisonment from one to five years. In addition, rewards may be paid for information leading to convictions. Should human remains be encountered all activity in the immediate area of the discovery will cease immediately and, at a minimum, a 10-foot buffer

will be established protecting the remains until consultation with relevant tribes has been initiated and completed. Immediately upon the discovery of human remains, the contractor will notify local law enforcement, the coroner, the USACE Contracting Officer, and the USACE Nashville District Archaeologist as to the inadvertent discovery. Contact information is presented below. The Government retains ownership and control over archaeological resources.

Buncombe County Sheriff: (828) 250-4503
Buncombe County Coroner: (919) 743-9000
USACE Contracting Officer, Dellaria Martin:
USACE Nashville District Archaeologist, Catharine Wood: (615) 828-3720

3.5 AIR RESOURCES

Equipment operation, activities, or processes will be in accordance with 40 CFR 64 and state air emission and performance laws and standards.

3.5.1 Burning

Burning is prohibited on the project site.

3.5.2 Dust Control

Keep dust down at all times, including during nonworking periods. Sprinkle or treat, with dust suppressants, the soil at the site, haul roads, and other areas disturbed by operations. Dry power brooming will not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing will be permitted only for cleaning nonparticulate debris such as steel reinforcing bars. Only wet cutting will be permitted for cutting concrete blocks, concrete, and bituminous concrete. Do not unnecessarily shake bags of cement, concrete mortar, or plaster. Since these products contain Crystalline Silica, comply with the applicable OSHA standard, 29 CFR 1910.1053 or 29 CFR 1926.1153 for controlling exposure to Crystalline Silica Dust.

3.5.2.1 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 that would exceed 40 CFR 50, state, and local air pollution standards or that 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. 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 state and local visibility regulations.

3.5.3 Odors

Control odors from construction activities. The odors must be in compliance with state regulations and local ordinances and may not

constitute a health hazard.

3.6 WASTE MANAGEMENT AND DISPOSAL

3.6.1 Waste Determination Documentation

Complete a Waste Determination form (provided at the pre-construction conference) for Contractor-derived wastes to be generated. All potentially hazardous solid waste streams that are not subject to a specific exclusion or exemption from the hazardous waste regulations (e.g., scrap metal, domestic sewage) or subject to special rules, (lead-acid batteries and precious metals) must be characterized in accordance with the requirements of 40 CFR 262.11 or corresponding applicable state or local regulations. Base waste determination on user knowledge of the processes and materials used, and analytical data when necessary. Attach support documentation to the Waste Determination form. As a minimum, provide a Waste Determination form for the following waste (this listing is not exhaustive): oil- and latex -based painting and caulking products, solvents, adhesives, aerosols, petroleum products, and containers of the original materials.

3.6.2 Solid Waste Management

3.6.2.1 Control and Management of Solid Wastes

Pick up solid wastes, and place in covered containers that are regularly emptied. Do not prepare or cook food on the project site. Prevent contamination of the site or other areas when handling and disposing of wastes. At project completion, leave the areas clean. Employ segregation measures so that no hazardous or toxic waste will become co-mingled with non-hazardous solid waste. Transport solid waste off project site and dispose of it in compliance with 40 CFR 260, state, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill is the minimum acceptable offsite solid waste disposal option. Verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate. Solid waste disposal offsite must comply with most stringent local, state, and federal requirements, including 40 CFR 241, 40 CFR 243, and 40 CFR 258.

Manage hazardous material used in construction, including but not limited to, aerosol cans, waste paint, cleaning solvents, contaminated brushes, and used rags, in accordance with 49 CFR 173.

3.6.3 Control and Management of Hazardous Waste

Do not dispose of hazardous waste on the project site. The discharge of any hazardous waste to a sanitary sewer, storm drain, or surface water is strictly prohibited. The treatment or disposal of hazardous waste on the project site is prohibited.

3.6.3.1 Hazardous Waste/Debris Management

Identify construction activities that will generate hazardous waste or debris. Provide a documented waste determination for resultant waste streams. Identify, label, handle, store, and dispose of hazardous waste or debris in accordance with federal, state, and local regulations, including 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, 40 CFR 265, 40 CFR 266, and 40 CFR 268.

For any project areas where soil will be disturbed or excavation will take

place, perform an evaluation of the area to be disturbed for presence of hazardous, toxic or radioactive waste (HTRW). Methods of evaluation will be sufficient to identify areas with suspected or confirmed releases or presence of hazardous substances or petroleum products (ie: Phase I/II Environmental Site Assessments, desktop reviews, etc.). Evaluations to take place prior to excavation work commencing. Provide proper identification, removal and disposal of any hazardous waste or substance identified in project work areas. A Subtitle C RCRA permitted landfill is the minimum acceptable offsite hazardous waste disposal option.

Residential areas where project work will take place present low risk of containing hazardous waste/substances or contamination. Project areas with past or present commercial or industrial land use present more risk of containing these substances.

Manage hazardous waste in accordance with the approved Hazardous Waste Management Section of the EPP. Store hazardous wastes in approved containers in accordance with 49 CFR 173 and 49 CFR 178. Provide the Contracting Officer with a copy of waste determination documentation for any solid waste streams that have any potential to be hazardous waste.

3.6.3.2 Waste Storage/Satellite Accumulation/90 Day Storage Areas

Accumulate hazardous waste at satellite accumulation points and in compliance with 40 CFR 262 and applicable state or local regulations. Individual waste streams will be limited to 55 gallons of accumulation (or one quart for acutely hazardous wastes). If the Contractor expects to generate hazardous waste at a rate and quantity that makes satellite accumulation impractical, a temporary 90-day or 180-day area, must be detailed in the Hazardous Waste Management section of the Environmental Protection Plan (EPP) for Government approval. Contractor remains solely responsible for all additional compliance requirements associated with a central accumulation area, including but not limited to contingency planning and personnel training. Any designated central accumulation area must be barricaded, and a sign shall be posted identifying it as follows:

"DANGER - UNAUTHORIZED PERSONNEL KEEP OUT"

3.6.3.3 Hazardous Waste Disposal

3.6.4 Releases/Spills of Oil and Hazardous Substances

3.6.4.1 Response and Notifications

Exercise due diligence to prevent, contain, and respond to spills of hazardous material, hazardous substances, hazardous waste, sewage, regulated gas, petroleum, lubrication oil, and other substances regulated in accordance with 40 CFR 300. Maintain spill cleanup equipment and materials at the work site. In the event of a spill, take prompt, effective action to stop, contain, curtail, or otherwise limit the amount, duration, and severity of the spill/release. In the event of any releases of oil and hazardous substances, chemicals, or gases; immediately (within 15 minutes) notify 911 (if an emergency), the National Response Center (if a reportable quantity), NCDEQ, the Town of Weaverville, and the Contracting Officer..

Submit verbal and written notifications as required by the federal (40 CFR 300.125 and 40 CFR 355), state, local regulations and instructions. Provide copies of the written notification and documentation that a verbal

notification was made within 20 days. Spill response must be in accordance with 40 CFR 300 and applicable state and local regulations. Contain and clean up these spills without cost to the Government.

3.6.4.2 Clean Up

Clean up hazardous and non-hazardous waste spills. Reimburse the Government for costs incurred including sample analysis materials, clothing, equipment, and labor if the Government will initiate its own spill cleanup procedures, for Contractor- responsible spills, when: Spill cleanup procedures have not begun within one hour of spill discovery/occurrence; or, in the Government's judgment, spill cleanup is inadequate and the spill remains a threat to human health or the environment.

3.6.5 Wastewater

3.6.5.1 Disposal of Wastewater

Disposal of wastewater must be as specified below.

3.6.5.1.1 Treatment

Do not allow wastewater from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, and forms to enter water ways or to be discharged prior to being treated to remove pollutants. A State NPDES Permit is required to treat and discharge treated wastewater that meets state water quality standards in accordance with, state, regional, and local laws and regulations.

3.6.5.1.2 Surface Discharge

For discharge of uncontaminated ground water, surface discharge in accordance with federal, state, and local laws and regulations. Surface discharge in accordance with the requirements of the NPDES or state STORMWATER DISCHARGES FROM CONSTRUCTION SITES permit.

3.6.5.1.3 Land Application

Water generated from the flushing of lines after disinfection or disinfection in conjunction with hydrostatic testing must be land applied in accordance with federal, state, and local laws and regulations for land application.

3.7 HAZARDOUS MATERIAL MANAGEMENT

Include hazardous material control procedures in the Accident Prevention Plan (APP), in accordance with Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS. Address procedures and proper handling of hazardous materials, including the appropriate transportation requirements. Do not bring hazardous material onto Government property that does not directly relate to requirements for the performance of this contract. Submit an SDS and estimated quantities to be used for each hazardous material to the Contracting Officer prior to bringing the material on the installation. Typical materials requiring SDS and quantity reporting include, but are not limited to, oil and latex based painting and caulking products, solvents, adhesives, aerosol, and petroleum products. Use hazardous materials in a manner that minimizes the amount of hazardous waste generated. Containers

of hazardous materials must have National Fire Protection Association labels or their equivalent. Certify that hazardous materials removed from the site are hazardous materials and do not meet the definition of hazardous waste, in accordance with 40 CFR 261 and state requirements.

3.8 PREVIOUSLY USED EQUIPMENT

Clean previously used construction equipment prior to bringing it onto the project site. Equipment must be free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds.

3.9 PETROLEUM, OIL, LUBRICANT (POL) STORAGE AND FUELING

POL products include flammable or combustible liquids, such as gasoline, diesel, lubricating oil, used engine oil, hydraulic oil, mineral oil, and cooking oil. Store equipment and motor vehicles in a manner that affords the maximum protection against spills into the environment. Manage and store POL products in accordance with EPA 40 CFR 112, and other federal, state, regional, and local laws and regulations. Use secondary containments, dikes, curbs, and other barriers, to prevent POL products from spilling and entering the ground, storm or sewer drains, stormwater ditches or canals, or navigable waters of the United States. Describe in the EPP (see paragraph ENVIRONMENTAL PROTECTION PLAN) how POL tanks and containers must be stored, managed, and inspected and what protections must be provided. Storage of oil, including fuel, on the project site in excess of the equipment tanks and reservoirs is not allowed. Fuel must be brought to the project site each day that work is performed.

3.9.1 Used Oil Management

Manage used oil generated on site in accordance with 40 CFR 279. Determine if any used oil generated while onsite exhibits a characteristic of hazardous waste. Used oil containing 1,000 parts per million of solvents is considered a hazardous waste and disposed of at the Contractor's expense. Used oil mixed with a hazardous waste is also considered a hazardous waste. Dispose in accordance with paragraph HAZARDOUS WASTE DISPOSAL.

3.10 INADVERTENT DISCOVERY OF PETROLEUM-CONTAMINATED SOIL OR HAZARDOUS WASTES

If petroleum-contaminated soil, or suspected hazardous waste is found during construction that was not identified in the Contract documents, immediately notify the Contracting Officer. Do not disturb this material until authorized by the Contracting Officer.

3.11 SOUND INTRUSION

Make the maximum use of low-noise emission products, as certified by the EPA. Blasting or use of explosives are not permitted without written permission from the Contracting Officer, and then only during the designated times.

Keep construction activities under surveillance and control to minimize environment damage by noise. Comply with the provisions of the State of North Carolina and Town of Weaverville rules.

3.12 POST CONSTRUCTION CLEANUP

Clean up areas used for construction in accordance with Contract Clause: "Cleaning Up". Unless otherwise instructed in writing by the Contracting Officer, remove traces 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. Grade parking area and similar temporarily used areas to conform with surrounding contours.

-- End of Section --

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-- End of Section Table of Contents --

SECTION 01 78 00

CLOSEOUT SUBMITTALS

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 for Photogrammetry and Remote Sensing (ASPRS)

ASPRS PAS (2024) Positional Accuracy Standards for
Digital Geospatial Data

U.S. ARMY CORPS OF ENGINEERS (USACE)

ERDC/ITL TR-19-6 (2019) A/E/C Graphics Standard, Release 2.1

ERDC/ITL TR-19-7 (2019) A/E/C CAD Standard - Release 6.1

1.2 DEFINITIONS

1.2.1 As-Built Drawings

As-built drawings are the marked-up drawings, maintained by the Contractor on-site, that depict actual conditions and deviations from the Contract Documents. These deviations and additions may result from coordination required by, but not limited to: contract modifications; official responses to submitted Requests for Information (RFI's); direction from the Contracting Officer; design that is the responsibility of the Contractor, and differing site conditions. Maintain the as-builts throughout construction as red-lined hard copies on site or red-lined PDF files. These files serve as the basis for the creation of the record drawings.

1.2.2 Record Drawings

The record drawings are the final compilation of actual conditions reflected in the as-built drawings.

1.3 EXCHANGE OF ELECTRONIC FILES AND CAD DATA

1.3.1 Government-Furnished Information

Upon request, the Government will furnish available electronic reference information to the Contractor, which may include GIS data, surveys, record drawings of existing utilities, or preliminary concept drawings. This information is provided for the Contractor's convenience and information only. The Government makes no representation regarding the accuracy or completeness of this reference information. The Contractor is solely responsible for performing all field investigations necessary to verify existing conditions and for the accuracy of its final design documents. The Contractor shall, to the fullest extent permitted by law, indemnify and hold the Government harmless from all claims, damages, or costs arising

from the use of this Government-furnished reference information.

1.3.2 Contractor-Delivered Record Drawings

Contractor must deliver a complete set of Record Drawing files. These files shall reflect all as-built conditions and incorporate all changes made during construction. The submittal shall include the complete set of drawings in both their native source file format (AutoCAD .DWG) and in PDF format.

1.4 RECORD DRAWINGS

1.4.1 Process

The Contractor is solely responsible for the preparation and maintenance of Record Drawings. Throughout the construction phase, the Contractor shall maintain a complete and current set of "red-line" working drawings. On this set, the Contractor shall accurately record all changes, deviations from the original design, and the final installed location of all features. This includes, but is not limited to, the final horizontal and vertical location of all pipelines, manholes, cleanouts, valves, hydrants, services, and other appurtenances.

1.4.2 Final Submittal

Prior to contract closeout, the Contractor shall transfer all information from the "red-line" working drawings to a final, clean set of Record Drawings using their original design source files. This final set shall accurately represent the as-built condition of the completed work. The delivery of the final Record Drawing files shall be in accordance with the requirements in paragraph "Contractor-Delivered Record Drawings."

1.4.3 Certification

Each sheet of the Record Drawings shall be clearly marked "RECORD DRAWING" and shall bear a date and certification signed by the Contractor's Project Manager or Quality Control Manager, stating that the drawing represents the as-built condition to the best of their knowledge.

1.5 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are for information only. When used, a code following the "G" classification 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

Warranty Management Plan

Warranty Tags

Spare Parts List; G

SD-08 Manufacturer's Instructions

Posted Instructions

SD-10 Operation and Maintenance Data

Operation and Maintenance Manuals; G

SD-11 Closeout Submittals

As-Built Drawings; G

Record Drawings; G

As-Built Record of Equipment and Materials

Final Approved Shop Drawings; G

Construction Contract Specifications; G

Certification of EPA Designated Items; G

Certification Of USDA Designated Items; G

Provision Of Spare Parts; G

1.6 SPARE PARTS DATA AND DELIVERABLES

Submit one copy of the Spare Parts Data list.

Recommended Spare Parts List

During the design phase, as part of the equipment selection submittal for any maintainable equipment (such as altitude valves, pumps, etc.), the Contractor shall submit a Recommended Spare Parts List for the Government's review and approval. The list shall, at a minimum, include the manufacturer's name, part number, recommended on-hand quantity, and estimated price for each item required for two years of normal operation and maintenance.

Provision of Spare Parts

Prior to final project acceptance, the Contractor shall procure and deliver the complete list of spare parts as approved by the Government in the design submittal. All parts shall be new, in original packaging, and clearly labeled. The provision of these spare parts does not relieve the Contractor of any responsibilities under the contract's warranty or guarantee provisions.

1.7 WARRANTY MANAGEMENT

1.7.1 Warranty Management Plan

Develop a warranty management plan which contains information relevant to FAR 52.246-21 Warranty of Construction. At least 30 days before the planned pre-warranty conference, submit one set of the warranty management plan. Include within the warranty management plan all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan narrative must contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this

contract. The term "status" as indicated below must include due date and whether item has been submitted or was accomplished. Submit warranty information, made available during the construction phase, to the Contracting Officer for approval prior to each monthly pay estimate. Assemble approved information in a binder and turn over to the Government upon acceptance of the work. The construction warranty period must begin on the date of project acceptance and continue for the full product warranty period. Conduct a joint 4 month and 9 month warranty inspection, measured from time of acceptance; with the Contractor, Contracting Officer and the Customer Representative. The warranty management plan must include, but is not limited to, the following:

- a. Roles and responsibilities of personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.
- b. For each warranty, the name, address, telephone number, and e-mail of each of the guarantor's representatives nearest to the project location.
- c. A list and status of delivery of Certificates of Warranty for extended warranty items, including any pumps, motors, altitude valves, telemetry equipment, or control panels.
- d. Warranted Equipment and Materials list for each warranted equipment, item, feature of construction or system indicating:
 - (1) Name of item.
 - (2) Model and serial numbers.
 - (3) Location where installed.
 - (4) Name and phone numbers of manufacturers or suppliers.
 - (5) Names, addresses and telephone numbers of sources of spare parts.
 - (6) Warranties and terms of warranty. Include one-year overall warranty of construction, including the starting date of warranty of construction. Items which have warranties longer than one year must be indicated with separate warranty expiration dates.
 - (7) Cross-reference to warranty certificates as applicable.
 - (8) Starting point and duration of warranty period.
 - (9) Summary of maintenance procedures required to continue the warranty in force.
 - (10) Cross-reference to specific pertinent Operation and Maintenance manuals.
 - (11) Organization, names and phone numbers of persons to call for warranty service.
 - (12) Typical response time and repair time expected for various warranted equipment.
- e. The plans for attendance at the 4 and 9 month post-construction warranty inspections conducted by the Government.
- f. Procedure and status of tagging of equipment covered by warranties longer than one year.
- g. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty or safety reasons.

1.7.2 Performance Bond

The Performance Bond must remain effective throughout the construction and

warranty period.

- a. In the event the Contractor fails to commence and diligently pursue any construction warranty work required, the Contracting Officer will have the work performed by others, and after completion of the work, will charge the remaining construction warranty funds of expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.
- b. In the event sufficient funds are not available to cover the construction warranty work performed by the Government at the Contractor's expense, the Contracting Officer will have the right to recoup expenses from the bonding company.
- c. Following oral or written notification of required construction warranty repair work, respond in a timely manner. Written verification will follow oral instructions. Failure to respond will be cause for the Contracting Officer to proceed against the Contractor.

1.7.3 Pre-Warranty Conference

Prior to contract completion, and at a time designated by the Contracting Officer, meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section. At this meeting, establish and review communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty. In connection with these requirements and at the time of the Contractor's quality control completion inspection, furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty work action on behalf of the Contractor. This point of contact must be located within the local service area of the warranted construction, be continuously available, and be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this provision.

1.7.4 Contractor's Response to Construction Warranty Service Requirements

Following oral or written notification by the Contracting Officer, respond to construction warranty service requirements in accordance with the "Construction Warranty Service Priority List" and the three categories of priorities listed below. Submit a report on any warranty item that has been repaired during the warranty period. Include within the report the cause of the problem, date reported, corrective action taken, and when the repair was completed. If the Contractor does not perform the construction warranty within the timeframe specified, the Government will perform the work and back charge the construction warranty payment item established.

- a. First Priority Code 1. Perform onsite inspection to evaluate situation, and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.
- b. Second Priority Code 2. Perform onsite inspection to evaluate situation, and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.

c. Third Priority Code 3. All other work to be initiated within 3 work days and work completed in a timely manner as agreed upon with the Contracting Officer.

d. The "Construction Warranty Service Priority List" is as follows:

Code 1-Water Main/Service

(1) Catastrophic main break causing loss of service, significant property damage, or a public safety hazard.

Code 1-Sewer Main/Service

(2) Main line collapse or blockage causing a sanitary sewer overflow or backup into structures.

Code 1-Altitude Valve

(3) Valve failure causing a tank to overflow or become empty, resulting in a system-wide pressure issue.

Code 2-Water Main/Service

(4) A significant, but controllable, leak on a main or service line.

Code 2-Fire Hydrant

(5) A fire hydrant that is inoperable, leaking, or has been damaged.

Code 2-Valves

(6) A main line valve that is inoperable or passing water when it should be closed.

Code 2-Sewer Manhole

(7) A damaged manhole frame/cover creating a traffic hazard; evidence of significant infiltration/inflow.

Code 3-Site Restoration

(8) Significant settlement of a trench creating a trip hazard or drainage issue.

(9) Failure of final seeding/stabilization to establish vegetative cover.

Code 3-Valve/Service Box

(10) A valve box or water meter box that is misaligned, buried, or damaged but still accessible.

Code 3-All Other Work

(11) Any other warranty defect not listed above.

1.7.5 Warranty Tags

At the time of installation, tag each warranted item with a durable, oil and water resistant tag approved by the Contracting Officer. Attach each tag with a copper wire and spray with a silicone waterproof coating. Also, submit one record copy of the warranty tags showing the layout and design. The date of acceptance and the QC signature must remain blank until the project is accepted for beneficial occupancy. Show the following information on the tag.

Type of product/material	
--------------------------	--

Model number	
Serial number	
Contract number	
Warranty period from/to	
Inspector's signature	
Construction Contractor	
Address	
Telephone number	
Warranty contact	
Address	
Telephone number	
Warranty response time priority code	
WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE DURING THE WARRANTY PERIOD.	

PART 2 PRODUCTS

2.1 RECORD DRAWING FORMAT AND STANDARDS

File Format - The Contractor shall deliver final Record Drawing files in AutoCAD .DWG format, Version 2018 or newer. The files shall be compatible with a Windows operating system.

CAD Standards - All CAD work shall conform to the Architectural, Engineering and Construction (AEC) CAD Standard as detailed in ERDC/ITL TR-19-7 and ERDC/ITL TR-19-6.

Title Block - The Contractor shall develop and use a standard title block for all drawings submitted. At a minimum, the title block shall include: Project Title, USACE Contract Number, Task Order Number, Sheet Title, Sheet Number, the Designer of Record's Firm Name and Logo, and the Professional Engineer's seal where applicable.

Drawing Set Organization - The final Record Drawing set shall be logically organized and include a comprehensive drawing index sheet listing all drawings in the set.

2.2 CERTIFICATION OF EPA DESIGNATED ITEMS

Submit the Certification of EPA Designated Items as required by FAR 52.223-9 Estimate of Percentage of Recovered Material Content for EPA Designated Items and FAR 52-223-17 Affirmative Procurement of EPA designated items in Service and Construction Contracts. Include on the certification form the following information: project name, project number, Contractor name, license number, Contractor address, and certification. The certification will read as follows and be signed and dated by the Contractor. "I hereby certify the information provided herein is accurate and that the requisition/procurement of all materials listed on this form comply with current EPA standards for recycled/recovered materials content. The following exemptions may apply to the non-procurement of recycled/recovered content materials:

- a. The product does not meet appropriate performance standards;
- b. The product is not available within a reasonable time frame;
- c. The product is not available competitively (from two or more sources);
- d. The product is only available at an unreasonable price (compared with a comparable non-recycled content product)."

2.3 CERTIFICATION OF USDA DESIGNATED ITEMS

Submit the Certification of USDA Designated Items as required by FAR 52-223-1 Bio-based Product Certifications and FAR 52.223-2 Affirmative Procurement of Biobased Products Under Service and Construction Contracts. Include on the certification form the following information: project name, project number, Contractor name, license number, Contractor address, and certification. The certification will read as follows and be signed and dated by the Contractor. "I hereby certify the information provided herein is accurate and that the requisition/procurement of all materials listed on this form comply with current USDA standards for biobased materials content. The following exemptions may apply to the non-procurement of biobased content materials:

- a. The product does not meet appropriate performance standards;
- b. The product is not available within a reasonable time frame;
- c. The product is not available competitively (from two or more sources);
- d. The product is only available at an unreasonable price (compared with a comparable bio-based content product)."

2.4 PDF AS-BUILT FILES

Provide a complete electronic set of all final Record Drawing sheets in PDF format. The PDF files shall be compiled into a single, organized document. The sheets within the PDF document shall be ordered logically to match the final Record Drawing index sheet. Bookmark and label the pages of the PDF file in accordance with Section 01 33 16.00 10 DESIGN DATA (DESIGN AFTER AWARD).

2.5 GIS DATA DELIVERABLES

As a part of the contract closeout, the Contractor shall deliver a complete

set of geospatial (GIS) data representing the final, as-built location and attribution of all new infrastructure installed under this contract.

Data Standards and Format

The Government will provide the required GIS data standards, including data schema, feature class names, and attribute tables, to the Contractor. The final GIS deliverable shall conform to the standards provided by the Government.

All data will conform to ASPRS Positional Accuracy Standards for Digital Geospatial Data (ASPRS PAS). All data will require metadata to conform to the Federal Geographic Data Committee standards. Contractor must coordinate with Contracting Officer to ensure the data deliverable will integrate seamlessly with the city's existing IT architecture and geospatial strategy.

The GIS data must be delivered as an ESRI File Geodatabase (.gdb) or as individual Shapefiles (.shp).

All data shall be projected in the North Carolina State Plane Coordinate System, NAD83 (NSRS2007), with vertical data referenced to NAVD88. All units shall be in feet.

Minimum Content

At a minimum, the data must include separate feature classes (layers) for all water mains, sewer mains, service laterals, manholes, cleanouts, valves, fire hydrants, and other significant appurtenances.

Each feature must be attributed with, at a minimum: material, diameter or size, installation date, and a cross-reference to the Record Drawing sheet number

Read-Me File

A digital "Read-Me" text file shall be included that describes the delivered data, including the software used, coordinate system, a list of all included files, and a description of the attribute fields for each feature class.

2.6 AS-BUILT RE-SUBMISSION REQUIREMENTS

If elements of an as-built submittal or advanced modeling package are rejected, provide the following for each re-submission, in addition to any information required in Section 01 33 00 SUBMITTAL PROCEDURES:

- a. A complete, corrected set of the Record Drawing files.
- b. Provide a copy of all Government review comments.
- c. Provide a disposition/response to each Government review comment for a back-check of the re-submission deliverable.

PART 3 EXECUTION

3.1 AS-BUILT DRAWINGS

Throughout all phases of construction, the Contractor must provide and maintain a complete set of working drawings for the express purpose of recording as-built information. This set, referred to as "red-line" or "as-built" mark-ups, shall be maintained on-site at all times and be available for review by the Contracting Officer. The mark-ups shall be kept current on a weekly basis. Submit As-Built Drawings 30 days prior to Beneficial Occupancy Date (BOD).

The Contractor shall submit the current red-line mark-ups for review with each monthly pay estimate. Failure to maintain current and accurate red-line drawings on site may be cause for the Contracting Officer to withhold up to 10 percent of the monthly progress payment until the deficiency is rectified.

3.1.1 Mark-up Guidelines

Mark-ups shall be neat, legible, and accurately record all deviations, additions, and deletions from the Contractor's original approved design. The mark-ups must be complete and understandable without reference to external documents. Changes shall be clearly indicated using distinct colors or other clear notation, with a legend provided if necessary.

3.1.2 Required As-Built Information

The red-line mark-ups shall record, at a minimum, the following information as it occurs:

- a. The final, verified horizontal and vertical location, material, and size of all sub-surface utility lines and appurtenances. The location of key features (valves, manholes, cleanouts, bends, service connections) shall be dimensioned by offset to at least two permanently fixed surface features.
- b. The final grade, elevations, cross-sections, and alignment of all earthwork, structures, and utilities.
- c. The location and details of any design changes, including those resulting from shop drawings, field conditions, or final inspections.
- d. The final topography, invert elevations, and grades of all drainage features installed or affected by the work.
- e. The location and nature of all unusual or uncharted obstructions encountered during construction.
- f. The final location, extent, and size of any erosion protection, such as stone armoring at stream crossings.
- g. The actual location of all concrete anchors, construction joints, and control joints.
- h. Any changes in the location of installed equipment.
- i. All contract modifications.

3.2 RECORD DRAWINGS PREPARATION AND SUBMITTAL

The Contractor is solely responsible for the preparation, maintenance, and submission of final Record Drawings that accurately depict the as-built condition of all completed work. Final payment will be withheld pending the approval and acceptance of the complete final Record Drawing package.

3.2.1 CAD Standards and File Naming

All CAD work shall conform to the Architectural, Engineering and Construction (AEC) CAD Standard as detailed in ERDC/ITL TR-19-7 and ERDC/ITL TR-19-6.

All as-built notations shall be placed on a distinct layer named "AS-BUILT."

All final CAD drawing files shall be named using the contract number as a prefix, as directed during the Pre-Construction Conference.

3.2.2 Review and Submittal Process

Within 20 days of substantial completion, the Contractor shall prepare and submit a complete set of final Record Drawings for Government review.

The Government will promptly review the submittal for accuracy and completeness. If corrections are required, the Government will return one set annotated with comments.

The Contractor shall, at no additional cost, revise the drawings to address all Government comments and resubmit the final, corrected package within 10 days of receiving comments.

3.2.3 Final Record Drawing Package Contents

The final approved package shall include the following, which will become the property of the Government:

CAD Files: One complete set of the final Record Drawing files in AutoCAD .DWG format.

PDF Files: One complete, bookmarked PDF file of the final Record Drawing set.

Certification: The cover sheet of the drawing set shall include the text "RECORD DRAWING" and be dated and signed by the Contractor's Project Manager, certifying its accuracy.

3.3 FINAL APPROVED SHOP DRAWINGS

Submit final approved project shop drawings 30 days after transfer of the completed facility.

3.4 CONSTRUCTION CONTRACT SPECIFICATIONS

Thirty days after transfer of the completed project, submit one complete electronic PDF copy of the final, approved technical specifications for all

materials and equipment incorporated into the work as part of the Contractor's accepted design.

3.5 AS-BUILT RECORD OF EQUIPMENT AND MATERIALS

Furnish one copy of preliminary record of equipment and materials used on the project 15 days prior to final inspection. This preliminary submittal will be reviewed and returned 2 days after final inspection with Government comments. Submit Two sets of final record of equipment and materials 10 days after final inspection. Key the designations to the related area depicted on the contract drawings. List the following data:

RECORD OF DESIGNATED EQUIPMENT AND MATERIALS DATA				
Description	Specification Section	Manufacturer and Catalog, Model, and Serial Number	Composition and Size	Where Used

3.6 OPERATION AND MAINTENANCE MANUALS

Provide one electronic copies of the Operation and Maintenance Manual files and one hard copy of the Operation and Maintenance Manuals. Submit to the Contracting Officer for approval within 30 calendar days of the Beneficial Occupancy Date (BOD). Update and resubmit files for final approval at BOD.

3.7 CLEANUP

Leave premises "broom clean." Clean equipment and fixtures to a sanitary condition. Clean filters of operating equipment. Clean debris from drainage systems. Sweep paved areas and rake clean landscaped areas. Remove waste and surplus materials, rubbish and construction facilities from the site..

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 95 00

FORMS AND ATTACHMENTS

PART 1 GENERAL

1.1 FORMS AND ATTACHMENTS

PART 2 PRODUCTS

PART 3 EXECUTION

ATTACHMENTS:

1. Project Identification Sign
2. Safety Performance Sign
3. Contractor Performance Assessment Report (CPAR) Form
4. ENG Form 4025 Transmittal Form
5. Submittal Register
6. ENG Form 6282 SITE SAFETY & HEALTH OFFICER (SSHO) DESIGNATION LETTER
7. ENG Form 6293 ACCIDENT PREVENTION PLAN (APP) WORKSHEET

-- End of Section Table of Contents --

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SECTION 01 95 00

FORMS AND ATTACHMENTS

PART 1 GENERAL

1.1 FORMS AND ATTACHMENTS

Listed below, and attached at the end of this section, are forms and attachments referred to in other parts of the set of technical specifications.

1. Project Identification Sign. See Section 01 00 00 GENERAL REQUIREMENTS.
2. Safety Performance Sign. See Section 01 00 00 GENERAL REQUIREMENTS.
3. Contractor Performance Assessment Report (CPAR) Form. See Section 01 00 00 GENERAL REQUIREMENTS.
4. ENG Form 4025 Transmittal Form. See Section 01 33 00 SUBMITTAL PROCEDURES.
5. Submittal Register. See Section 01 33 00 SUBMITTAL PROCEDURES.
6. ENG Form 6282 SITE SAFETY & HEALTH OFFICER (SSHO) DESIGNATION LETTER. See Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.
7. ENG Form 6293 ACCIDENT PREVENTION PLAN (APP) WORKSHEET. See Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

-- End of Section --

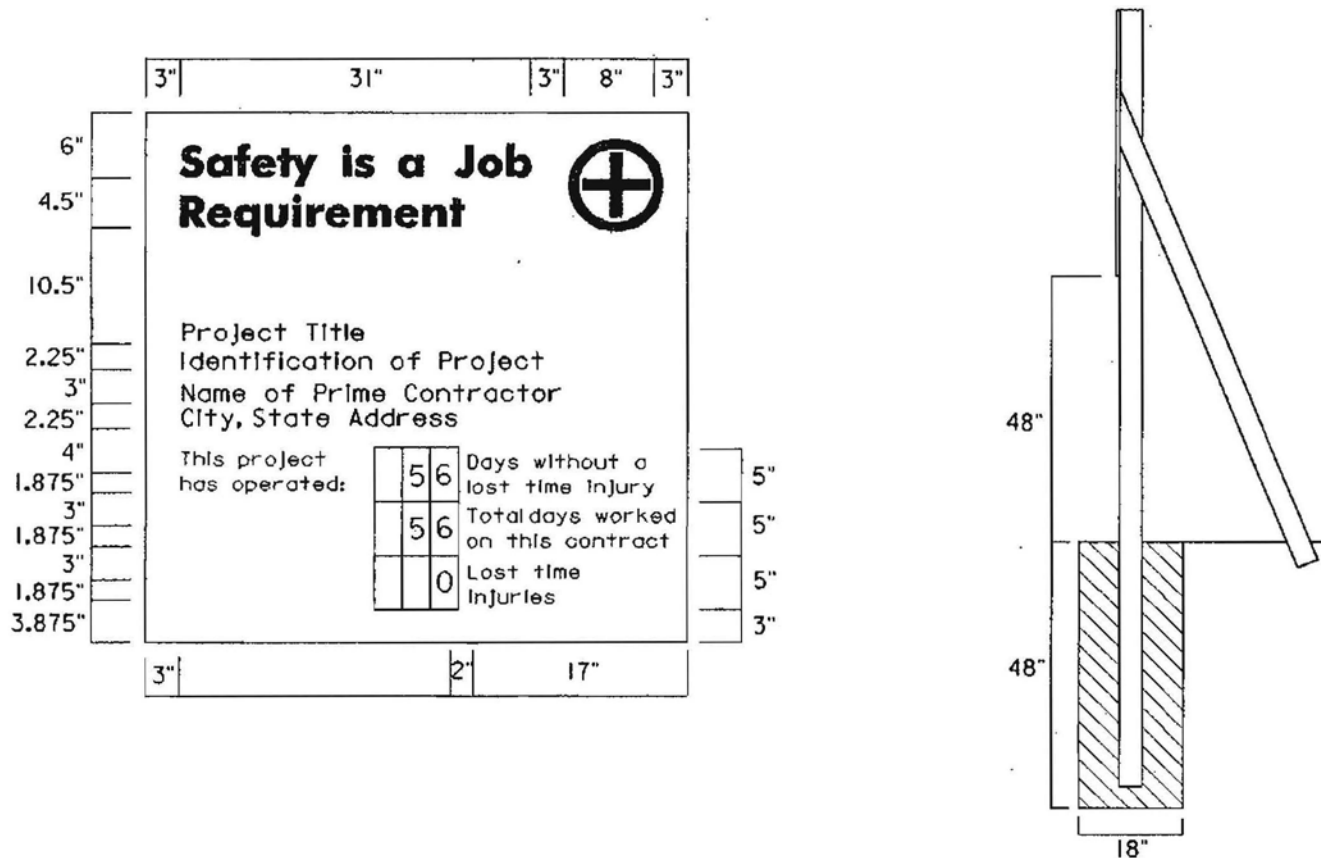
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USACE Construction Project Sign and Use of the Army Star

Example Graphic of Signage with Dimensions for Civil Works Project



SAFETY PERFORMANCE SIGN



LEGEND GROUP 1: STANDARD TWO-LINE TITLE "SAFETY IS A JOB REQUIREMENT" WITH (8" OD.) SAFETY GREEN FIRST AID LOGO. TYPEFACE: 3" HELVETICA BOLD COLOR: BLACK.

LEGEND GROUP 2: ONE- TO TWO-LINE PROJECT TITLE LEGEND DESCRIBES THE WORK BEING DONE UNDER THIS CONTRACT AND NAME OF HOST PROJECT. COLOR: BLACK. TYPE FACE: 1.5" HELVETICA REGULAR MAXIMUM LINE LENGTH: 42".

LEGEND GROUP 3: ONE- TO TWO-LINE IDENTIFICATION: NAME OF PRIME CONTRACTOR AND CITY, STATE ADDRESS. COLOR: BLACK. TYPEFACE: 1.5" HELVETICA REGULAR MAXIMUM LINE LENGTH: 42".

LEGEND GROUP 4: STANDARD SAFETY RECORD CAPTIONS AS SHOWN. COLOR: BLACK. TYPEFACE: 1.25" HELVETICA REGULAR.

REPLACEABLE NUMBERS ARE TO BE MOUNTED ON WHITE .060 ALUMINUM PLATES AND SCREW-MOUNTED TO BACKGROUND. COLOR: BLACK. TYPEFACE: 3" HELVETICA REGULAR. PLATE SIZE: 2.5" X 5.0".

ALL TYPOGRAPHY IS FLUSH LEFT AND RAG RIGHT, UPPER AND LOWER CASE WITH INITIAL CAPITALS ONLY AS SHOWN.

PANEL SIZE 4' X 4', POST SIZE 4" X 4". MOUNTING HEIGHT 48". COLOR BKG/LGD WH/BK-GR.

CONTRACTOR PERFORMANCE ASSESSMENT REPORT (CPAR)

Type: []

Name/Address of Contractor:

Company Name: [] Division Name: []

Street Address: [] City: []

State/Province: [] Zip Code: []

Country: []

DUNS: [] PSC: [] NAICS: []

Evaluation Type: [] Contract Percent Complete: []

Period of Performance: From: [] To: []

Contract Number: [] Business Sector/ Subsector
[]

Contracting Office: []

Contracting Officer: [] Phone Number: []

Location of Work: []

Award Date: [] Effective Date: [] Completion Date: [] Actual Completion Date: []

Total Dollar Value: [] Current Contract Dollar Value: []

Complexity: [] Termination Type: []

Contract Type: [] Competition Type: []

Key Subcontractors and Effort Performed:

DUNS: [] Effort: []

DUNS: [] Effort: []

DUNS: [] Effort: []

[]

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Project Number:

Project Title:

Contract Effort Description:

Small Business Utilization:

Does this contract include a subcontracting plan?

Date of last Individual Subcontracting Report (ISR) / Summary Subcontracting Report (SSR):

Evaluate the Following Areas:

Quality:

Past Rating:

(Select)

Rating:

(Select)

Assessing Official Comments:

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FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Schedule:

Past Rating: (Select)

Rating: (Select)

Current Schedule Variance (%):

Completion Schedule Variance (%):

Assessing Official Comments:

Cost Control:

Past Rating: (Select)

Rating: (Select)

Current Cost Variance (%):

Completion Cost Variance (%):

Assessing Official Comments:

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Management:

Past Rating:

(Select)

Rating:

(Select)

Assessing Official Comments:

Small Business Utilization:

Past Rating:

(Select)

Rating:

(Select)

Assessing Official Comments:

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Regulatory Compliance:

Past Rating: (Select)

Rating: (Select)

Assessing Official Comments:

Other Areas:

(1)

Rating: N/A

(2)

Rating: N/A

(3)

Rating: N/A

Assessing Official Comments:

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Assessing Official Comments:

(Use this for general comments not directly related to an evaluation area)

Given what I know today about the contractor's ability to perform in accordance with this contract or order's most significant requirements, I [(recommendation)] recommend them for similar requirements in the future.

Name and Title of Assessing Official:

Name: []

Title: []

Organization: []

Phone Number: [] Email Address: []

Date []

Contractor Comments:

Quality Comments:

[Empty box for Quality Comments]

Schedule Comments:

[Empty box for Schedule Comments]

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Cost Control Comments:

Management Comments:

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Small Business Utilization Comments:

Regulatory Compliance Comments:

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Other Areas Comments:

Additional Comments:

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

Concurrence:

Name and Title of Contractor Representative:

Name:

Title:

Phone Number:

Email Address:

Date

Review by Reviewing Official:

Name and Title of Reviewing Official:

Name:

Title:

Organization:

Phone Number:

Email Address:

Date

FOR OFFICIAL USE ONLY / (Source Selection Information, See FAR 2.101, 3.104, and 42.1503)

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FOR DUPLEX PRINTING

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE (Read instructions on the reverse side prior to initiating this form)					DATE		TRANSMITTAL NO.										
SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by the contractor)																	
TO:		FROM:		CONTRACT NO.		CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____											
SPECIFICATION SEC. NO. (Cover only one section with each transmittal)		PROJECT TITLE AND LOCATION															
ITEM NO.	DESCRIPTION OF ITEM SUBMITTED (Type size, model number/etc.)	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. (See instruction no. 8)	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE	VARIATION (See instruction No. 6)	FOR CE USE CODE									
a.	b.	c.	d.	SPEC. PARA. NO.	DRAWING SHEET NO.	e.	f.	g.	h.	i.							
REMARKS			I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated.														
										NAME AND SIGNATURE OF CONTRACTOR							
SECTION II - APPROVAL ACTION																	
ENCLOSURES RETURNED (List by Item No.)						NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY						DATE					
ENG FORM 4025-R, MAR 95												EDITION OF SEP 93 IS OBSOLETE.		SHEET ____ OF ____		(Proponent: CEMP-CE)	

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- | | | | |
|------|--|-------|---|
| A -- | Approved as submitted. | E -- | Disapproved (See attached). |
| B -- | Approved, except as noted on drawings. | F -- | Receipt acknowledged. |
| C -- | Approved, except as noted on drawings.
Refer to attached sheet resubmission required. | FX -- | Receipt acknowledged, does not comply
as noted with contract requirements. |
| D -- | Will be returned by separate correspondence. | G -- | Other (<i>Specify</i>) |
10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

SUBMITTAL REGISTER											CONTRACT NO.						
TITLE AND LOCATION Weaverville, NC DRSAA DB MATOC						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASS OR S I F I C A T I O N R E V I E W R	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY						REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 00 00	SD-01 Preconstruction Submittals														
			Work Plan	1.18.3	G												
		01 32 01.00 10	SD-01 Preconstruction Submittals														
			Project Scheduler Qualifications	1.3	G												
			Preliminary Project Schedule	3.4.1	G												
			Initial Project Schedule	3.4.2	G												
			Periodic Schedule Update	3.7.2	G												
		01 33 00	SD-01 Preconstruction Submittals														
			Submittal Register	1.8	G												
		01 33 16.00 10	SD-01 Preconstruction Submittals														
			Initial Design Conference	1.5.2.2													
			DCM Procedures	3.6.1	G												
			Data Management Plan	2.1.2.2	G												
			SD-05 Design Data														
			Interim Design Submittal	3.3.1	R												
			Review Conference	3.9.4													
			Documentation														
			Final Design Submittal	3.10	R												
			Corrected Final Design Submittal	3.11	C												
			Design Complete Documents	3.12	C												
		01 35 26	SD-01 Preconstruction Submittals														
			Accident Prevention Plan (APP)	1.8.1	G												
			Design														
			Accident Prevention Plan (APP)	1.8.2	G												
			Construction														
			SD-06 Test Reports														

SUBMITTAL REGISTER											CONTRACT NO.						
TITLE AND LOCATION Weaverville, NC DRSAA DB MATOC						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION OR REVIEW	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY						REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 35 26	Accident Reports	1.12.2	G												
			LHE Inspection Reports	1.12.3													
			Monthly Exposure Reports	1.5	G												
			SD-07 Certificates														
			Activity Hazard Analysis (AHA)	1.9	G												
			Certificate of Compliance	1.12.4													
			Hot Work Permit	1.13													
			License Certificates														
			Standard Lift Plan	1.12.4.2	G												
		01 45 00	SD-01 Preconstruction Submittals														
			Contractor Quality Control (CQC)	1.5.4	G												
			Plan														
			Design Quality Control Plan		G ECG-												
			(DQCP)														
			SD-06 Test Reports														
			Verification Statement	1.12.3													
		01 50 00	SD-01 Preconstruction Submittals														
			Construction Site Plan	1.3	G												
			Traffic Control Plan	3.2.1	G												
			Haul Road Plan	2.2.1	G												
			SD-06 Test Reports														
			Backflow Preventer Tests	3.3													
			SD-07 Certificates														
			Backflow Tester	1.4.1													
			Backflow Preventers	1.4													
		01 57 19	SD-01 Preconstruction Submittals														

SUBMITTAL REGISTER											CONTRACT NO.						
TITLE AND LOCATION Weaverville, NC DRSAA DB MATOC						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION REVIEW	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION		DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 57 19	Existing Feature Protection Plan	1.5.1													
			Regulatory Notifications	1.5.2													
			Environmental Manager	1.5.4													
			Qualifications														
			Environmental Protection Plan	1.6	G												
			Stormwater Pollution Prevention	3.2.1.1	G												
			Plan														
			Stormwater Notice of Intent	3.2.1.2													
			Pre-Design Environmental	1.7	G												
			Compliance Plan														
			SD-06 Test Reports														
			Inspection Reports	3.2.1.3													
			SD-07 Certificates														
			Erosion and Sediment Control	1.5.5													
			Inspector														
			SD-11 Closeout Submittals														
			Regulatory Notifications	1.5.2	G												
			Assembled Employee Training	1.5.5	G												
			Records														
			Stormwater Pollution Prevention	3.2.1.4	G												
			Plan Compliance Notebook														
			Stormwater Notice of Termination	3.2.1.5	G												
			Waste Determination	3.6.1	G												
			Documentation														
			Project Solid Waste Disposal		G												
			Documentation Report														

SUBMITTAL REGISTER											CONTRACT NO.						
TITLE AND LOCATION Weaverville, NC DRSAA DB MATOC						CONTRACTOR											
ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT OR CLASSIFICATION REVIEW	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY						REMARKS
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01 57 19	Disposal Documentation for Hazardous and Regulated Waste		G												
		01 78 00	SD-03 Product Data														
			Warranty Management Plan	1.7.1													
			Warranty Tags	1.7.5													
			Spare Parts List	1.6	G												
			SD-08 Manufacturer's Instructions														
			Instructions	1.7.1													
			SD-10 Operation and Maintenance														
			Data														
			Operation and Maintenance	3.6	G												
			Manuals														
			SD-11 Closeout Submittals														
			As-Built Drawings	3.1	G												
			Record Drawings	3.2	G												
			As-Built Record of Equipment and Materials	3.5													
			Final Approved Shop Drawings	3.3	G												
			Construction Contract	3.4	G												
			Specifications														
			Certification of EPA Designated Items	2.2	G												
			Certification Of USDA Designated Items	2.3	G												
			Provision Of Spare Parts	1.6	G												

U.S. Army Corps of Engineers (USACE)

SITE SAFETY & HEALTH OFFICER (SSHO) DESIGNATION LETTER

For use of this form, see EM 385-1-1; the proponent agency is CESO.

Purpose: This document designates personnel responsible for overseeing and ensuring the implementation of the prime contractor's Safety & Occupational Health (SOH) program. This designation letter will be signed by the company's official responsible for the SOH program (e.g., *Corporate Safety Manager*).

Submit the following documentation to the Government Designated Authority (GDA) as part of the Accident Prevention Plan: 1) This signed SSHO Designation Letter (Eng Form 6282); 2) An instructor-signed OSHA 30-hour card (or course completion certificate if within 90 days of completing the OSHA 30-hour training); and 3) proof of 24 hours of competency of SOH training within the last 3 years.

PART I: COMPLETED BY COMPANY'S SOH PROGRAM OFFICIAL

1. Project Name

2. Contract Number

3. Location

4. The designated SSHO on this form meets the minimum EM 385-1-1 training and experience requirements for the selected level below and is knowledgeable of the SOH requirements for this project and has the authority to stop work when required.

SSHO Level	OSHA 30-Hour	Competency Training	Experience
☐ Level 1	Construction or General Industry	24 hours of documented formal classroom or online SOH-related training within the past five years and must maintain competency by taking 24 hours every three-year period for the duration of the contract.	5 years of cumulative safety experience, within the last ten years, managing or implementing a SOH program on projects similar in industry type, size, and complexity as the project described in the contract scope of work.
☐ Level 2	Construction or General Industry	24 hours of documented formal classroom or online SOH-related training within the past five years and must maintain competency by taking 24 hours every three-year period for the duration of the contract.	3 years of cumulative safety experience, within the last 10 years, managing or implementing a SOH program on projects similar in industry type, size, and complexity as the project described in the contract scope of work.
☐ Level 3	Qualified or Competent Person		

5. Summary of required safety experience:

By my signature below, I certify that the information I provided on this form is true and correct to the best of my knowledge.

Company SOH Official Name

Company SOH Official Title

Company SOH Official Signature

Date

PART II: COMPLETED BY DESIGNATED SSHO

SSHO Name

Date

SSHO Signature

U.S. Army Corps of Engineers (USACE)
ACCIDENT PREVENTION PLAN (APP) WORKSHEET

For use of this form, see EM 385-1-1; the proponent agency is CESO.

This form serves as a guide. It does not replace or eliminate the need to comply with the requirements set forth in Engineering Manual 385-1-1, Safety and Occupational Health Requirements Manual. The references included in this form correspond to the applicable chapters of EM 385-1-1. No work will begin onsite until the accident prevention plan (APP) is developed according to the EM 385-1-1, reviewed to ensure minimum requirements are met, and approved by the appropriate personnel identified in "Part 1 -Signatures"

PART 1 - SIGNATURES

Plan Preparer - For example: Qualified Person (QP), Competent Person (CP), or project Quality Control (QC).

1. Name:	2. Title:
3. Email Address:	4. Phone Number:
5. Signature	

Plan Approver - Corporate Safety Official

1. Name:	2. Title:
3. Email Address:	4. Phone Number:
5. Signature	

Plan Concurrence - For example: Industrial hygienist, Project Manager, Superintendent, Site Safety & Health Officer, Quality Control, etc.

1. Name:	2. Title:
3. Email Address:	4. Phone Number:
5. Signature:	

PART 2: PROJECT INFORMATION

1. Project Name:	
2. Project Address (attach map in Appendix 1):	
3. Estimated Project Start Date:	4. Estimated Project Completion Date:
5. Project Description / Description of work to be performed:	

PART 3: PRIME CONTRACTOR INFORMATION

1. Prime Contractor Name:

2. Contract Number:

3. Project Manager Name:

4. Quality Control (QC) Manager Name:

5. Contractor Corporate Safety Official Name:

6. Primary Site Safety & Health Officer (SSHO) Name:

7. Alternate Site Safety & Health Officer (SSHO) Name(s):

PART 4: SOH COMMITMENT AND POLICY

1. Provide a statement of safety and health policy detailing commitment to providing a safe and healthful workplace for all employees on this project.

2. Provide a statement outlining the Contractor's safety program goals and objectives.

3. Identify policies and procedure regarding non-compliance with safety requirements.

4. Provide written procedures for holding managers and supervisors accountable for safety.

5. Prime contractor is responsible for the implementation and enforcement of the SOH program for contractor employees, subcontractors, suppliers, and visitors at the site of work?

☐ Yes☐ No

6. Prime contractor will require subcontractors, suppliers, and visitors to comply with the APP and EM 385-1-1?

☐ Yes☐ No

7. No work will be performed unless a designated SSHO is present on the site of work.

☐ Yes☐ No

8. A list of all known subcontractor(s) and supplier(s) are listed in Appendix 2.

☐ Yes☐ No

9. If all subcontractor(s) and supplier(s) are not known at the time of initial APP submittal, Appendix 2 will be updated and resubmitted to the KO/COR for acceptance prior to the start of any work activities.

☐ Yes☐ No

10. All subcontractors will have a copy of the APP, applicable AHAs and will be required to comply with them.

☐ Yes☐ No

11. Subcontractors and suppliers at the site of work will abide by the EM 385-1-1, this APP, and all AHAs.

☐ Yes☐ No

12. This APP and AHAs will be available to all workers at the site of work.

☐ Yes☐ No

PART 5: TRAINING

1. All employees will be trained according to applicable EM 385-1-1, federal, state, and local requirements prior to the commencement of work. ☐ Yes ☐ No
2. The following personnel are identified and designated as personnel responsible for SOH on this project. Add the following documentation to Appendix 3 of this worksheet: 1) SSHO designation letter (ENG Form 6282), 2) instructor signed OSHA 30-hour card (or course completion certificate if within 90 days of having completed the OSHA 30-hour training), and 3) proof of 24 hours of competency of SOH training within the last 3 years for the personnel identified below. (EM 385-1-1, Chapter 2, 2-3 Personnel Qualification/Training):
(Check and list names of personnel being designated)
- ☐ Primary SSHO Name:
- ☐ Alternate SSHO Name(s):
3. QP(s) and CP(s) required by EM 385-1-1 (for example, excavation, confined space, scaffolding, fall protection, etc.) for this project will be included in Appendix 3. Include 1) List of names or designation letters and 2) proof of qualification/competency.

PART 6: SOH INSPECTIONS

1. All applicable inspections required by EM 385-1-1, contract, federal, state, and local requirements will be completed. ☐ Yes ☐ No
2. The following personnel are assigned to conduct inspections, the type of inspection and frequency for the worksite. At minimum the SSHO must conduct daily site inspections.
- | Who will conduct inspection? | Frequency? | What type of inspection? |
|------------------------------|------------|--------------------------|
| | | |
3. Employees that conduct inspections will have technical proficiency needed to perform inspections. Proof of inspector's training/qualification is included in Appendix 3. ☐ Yes ☐ No
4. Deficiencies will be documented and tracked as required by this EM 385-1-1? ☐ Yes ☐ No
6. Will any external inspections be required (for example, USCG, OSHA, etc.)? ☐ Yes ☐ No
If yes, describe:

PART 7: ACCIDENT REPORTING AND INVESTIGATION

1. Exposure data (man-hours worked) will be reported to KO/COR as required by the contract? ☐ Yes ☐ No
2. All accidents will be reported as soon as possible according to EM 385-1-1? ☐ Yes ☐ No
3. All accidents occurring incidentally to an operation, project, or facility for which the EM 385-1-1 is applicable will be thoroughly investigated and analyzed. Corrective actions to prevent reoccurrence will be implemented as soon as reasonably possible. The KO/COR will be notified when corrective actions are completed. ☐ Yes ☐ No
4. Accident notification will be provided to the KO/COR as stated below: ☐ Yes ☐ No
- | ACCIDENT TYPE | KO/COR NOTIFICATION TIME |
|---|--|
| Fatality, permanent and partial disability, or property damage over \$600,000 | Immediately, no later than (NLT) 8 hours |
| All other accidents and near misses | Immediately, NLT 24 hours |

PART 8: SOH OVERSIGHT

1. A risk management process that meets or exceeds the requirement of the EM 385-1-1 will be implemented on this project site?	☐ Yes	☐ No
2. Hazardous conditions and unsafe acts will be immediately corrected?	☐ Yes	☐ No
3. APP and AHAs will be prepared by a QP or CP according to the EM 385-1-1 prior to the start of any work activities on the site of work (as much as the information can be known at that point in time).	☐ Yes	☐ No
4. The plans and AHAs will be updated throughout the life of the project to include changes in personnel, equipment, conditions, etc. Additional revisions must be incorporated as necessary to reflect changing site conditions, construction methods, personnel roles and responsibilities and construction schedules.	☐ Yes	☐ No
5. No activity/work will be started at the site of work until the APP is reviewed and submitted to the KO/COR for acceptance, with the site-specific plans and procedures required by the EM 385-1-1 to complete the project?	☐ Yes	☐ No
6. APP and AHAs will be provided to and reviewed by all workers involved in the activity prior to work?	☐ Yes	☐ No
7. Workers will sign AHA(s) to concur with identified job steps and controls needed to mitigate hazards?	☐ Yes	☐ No

PART 9: SEVERE WEATHER PLAN

1. The SSHO or designated onsite personnel is responsible for checking the weather conditions at a minimum of twice a day?	☐ Yes	☐ No
2. What severe weather forecast will require the SSHO to monitor weather conditions continuously? Describe.		
3. What are the training requirements for severe weather precautions and actions?		
4. Identify area of retreat or other actions to be taken such as evacuation, shelter in place, etc.		
5. Identify procedures to stop outdoor activities if extreme weather conditions to include thunderstorms are in the area.		

PART 10: ACTIVITY HAZARD ANALYSIS (RISK MANAGEMENT)

1. Major phases of work anticipated:

2. Definable Features of Work (DFOW)

Note. An activity-specific AHA will be submitted to the KO/COR for each DFOW prior to any work being performed.

3. List equipment to be used:

4. Anticipated High-Risk Activities: (See examples below, check all that apply):

☐ Electrical and/or Hazardous Energy	☐ Confined Space
☐ Working at Heights	☐ Excavations & Trenching
☐ Scaffolding	☐ Other: _____
☐ Diving	☐ Other: _____
☐ Load Handling Equipment	☐ Other: _____
☐ Occupational Exposure	☐ Other: _____

5. Detailed project-specific hazards and controls will be provided utilizing AHAs for each activity/DFOW.	☐ Yes	☐ No
6. No work will begin on an activity/DFOW until the initial AHA addressing the project-specific hazards has been developed, reviewed, and accepted by the KO/COR. (See EM 385-1-1 Chapter 2 section 2-6).	☐ Yes	☐ No
7. AHAs are living documents and are intended to be created, utilized in the field, and updated (by the workers) as necessary.	☐ Yes	☐ No
8. Workers/crews will have accepted AHA(s) that reflects current site conditions, personnel, equipment, control measures, etc. while the work is being performed?	☐ Yes	☐ No
9. AHA will be used by the contractor personnel to assure work is being performed consistent with the AHA?	☐ Yes	☐ No
10. Once the activity has been completed, the AHA will be available and kept onsite for the length of the contract.	☐ Yes	☐ No
11. AHAs for unknown work activities will be submitted to the KO/COR prior to work and attached to Appendix 4 of this document.	☐ Yes	☐ No
12. Who has the authority to accept residual risk on AHA(s)? (List below)		

Category of Risk	Approval Authority (Name and Title)
Extremely High Risk	
High Risk	
Medium Risk	
Low Risk	

PART 11: REQUIRED PROJECT SITE-SPECIFIC PLANS AND PROCEDURES

- | | | |
|---|------------------------------|-----------------------------|
| 1. Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the contractor will ensure that all applicable SOH risks and associated compliance plans are in place. | ☐ Yes | ☐ No |
| 2. Include all project-specific compliance plans, as applicable to the work being performed, and as identified below. The plans will incorporate project-wide procedures to control hazards to which the employees of all project employers may be exposed. | ☐ Yes | ☐ No |
| 3. These plans and procedures will be coordinated with all project employers and be included in project-specific emergency response and evacuation procedures. | ☐ Yes | ☐ No |

4. Address each of the plans in the outline below in the order that they are listed.
- Option 1: If a plan is applicable, develop and attach it to Appendix 5. Submit to the KO/COR with this worksheet for acceptance prior to work.
- Option 2: If a plan is applicable, but all of the minimum required information for the plan is not yet known, provide justification next to each plan title, and provide an expected date the plan will be created, reviewed, and attached to Appendix 5. Submit to the KO/COR with this worksheet for acceptance prior to work.
- Option 3: If a plan is not applicable because of the nature of the work to be performed, provide justification next to each plan title.

Minimum plans required by EM 385-1-1	Reference EM 385-1-1 paragraph:	Select Option	Justification for Option 2 and Option 3
Exposure Control Plan	3-7.a		
AED Program	3-7.b		
Construction Site Plan	4-7.a		
Access/Haul Road Plan	4-7.b		
Hearing Conservation Program	5-7.a		
Respiratory Protection Program	5-7.b		
Hazard Communication (HazCom) Program	6-7.a		
Process Safety Management (PSM) Program	6-7.b		
Lead Compliance Plan	6-7.c		
Asbestos Management Plan	6-7.d		
Ionizing Radiation Safety Plan	6-7.e		
Radiofrequency Plan	6-7.e		
Abrasive Blasting Plan	6-7.g		
Thermal Stress Management Plan	6-7.h		
Mold Remediation Plan	6-7.i		
Silica Compliance Plan	6-7.j		
Fatigue Management Plan	6-7.k		
Night Operations Lighting Plan	7-7		
Traffic Control Plan	8-7		
Fire Prevention Plan	9-7.a		
Wildland Fire Management Plan	9-7.b		
Housekeeping Plan	10-7		
Electrical Safety Plan	11-7		
Assured Equipment Grounding Conductor Program	11-7.b		
Energy Control Plan	12-7.a		
Hazard Isolation Procedures	12-7.b		

Demolition Plan	17-7		
Emergency Plan for Marine Activities	19-7.a		
Severe Weather Plan for Marine Activities	19-7.b		
Float Plans	19-7.c		
Tow Plans	19-7.d		
Fall Protection and Prevention Plan	21-7.a		
Rescue Plan	21-7.b		
Scaffold Work Plan	21-7.b		
Rope Access Work Plan	23-7		
Excavation and Trenching Plan	25-7		
Fire Prevention and Protection Plan	26-7 a & f		
Compressed Air Work Plan	26-7 a & b		
Contingency Response Plan	26-7 a & c		
Emergency Rescue Plans and Equipment	26-7 a & d		
Ventilation and Dust Control Plan	26-7 a & e		
Formwork and Shoring Plan	27-7.a		
Masonry Bracing Plan	27-7.b		
Steel Erection Plan	28-7.a		
Site Layout Plan	28-7.b		
Explosive Site Safety Plan	29-7.a		
Master Blasting Plan	29-7.b		
Vibrations Monitoring Plan	29-7.c		
Dive Operations Plan	30-7.a & d		
Emergency Management Plan	30-7.a & e		
Safe Practices Manual	30-7.b		
Snorkeling Plan	30-7.f		
Tree Maintenance and Removal Plan	31-7		
Construction Safety and Phasing Plan	32-7.a		
Safety Plan Compliance Document	32-7.b		
Aviation Pre-Accident Plan	33-7		
Standard Lift Plan	34-7.b		
Confined Space Plan	34-7.b & c		
Standard Lift Plan - Floating Plan	34-7.c		
Critical Lift Plan	34-7.d		
Pile Driving	34-7.e		
Housekeeping Plan	35-7.a		
Extermination Plan	35-7.b		
Site Safety and Health Plan	36-7.a		
Comprehensive Work Plan	36-7.b		
Emergency Response Plan	36-7.c		

PART 12: PROJECT SITE COORDINATION

1. Provide procedures for coordinating SOH activities with other employers on the site of work:

PART 13: REQUIRED APPENDICES

Indicate if each of the following items are, or are not, attached to this plan.

Appendix 1. Project Map	☐ Yes	☐ No
Appendix 2. Subcontractor/Suppliers	☐ Yes	☐ No
Appendix 3. Personal Qualifications and Designations	☐ Yes	☐ No
Appendix 4. Activity Hazard Analysis	☐ Yes	☐ No
Appendix 5. Site-specific plans and procedures	☐ Yes	☐ No
Appendix 6. Any additional plans, procedures, etc. can be added to this appendix and will be coordinated with the KO/COR.	☐ Yes	☐ No