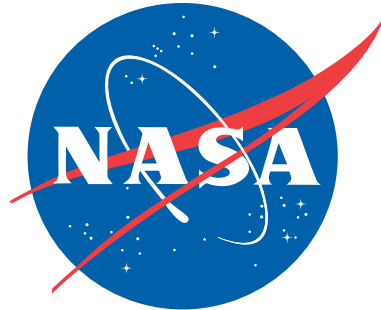


Part 2 – General Requirements

D/B RFP Preparation
Final Submittal

National Data Buoy Center Renovation and Expansion



John C. Stennis Space Center, Mississippi

prepared for



**Naval Facilities Engineering Command
Southeast
Charleston, South Carolina**

M&H Job No. 0077.04
A/E Contract No: N69450-07-D-0057
Delivery Order: 0004

September 5, 2008



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The Mason & Hanger Group Inc.



N69450-0_--_

NAVFAC
SPECIFICATION
NO. 06-0_--_

Appropriation:

**National Data Buoy Center
Renovation and Expansion**

At the

John C. Stennis Space Center, Mississippi

PREPARED BY:

Mason & Hanger
300 West Vine Street, Suite 1300
Lexington, KY 40507
(A/E Contract N69450-07-D-0057)

REQUEST FOR PROPOSAL PREPARED BY:

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Submitted By:

Date: Month, Day, Year

APPROVED BY:

For Commander, NAVFAC:
Date:

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NDBC Renovation & Expansion
Stennis Space Center, MS

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WORK RESTRICTIONS FOR DESIGN-BUILD
11/07

PART 1 GENERAL

1.1 NOT USED

1.1.1 State

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES and Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

List of contact personnel;G

Personnel List: G

Vehicle List; G

1.3 SPECIAL SCHEDULING REQUIREMENTS

a. Blast & Paint Facility shall be ready for operation as approved by Contracting Officer before work is started on Demolition of Building 3209 and Supporting Structures which would interfere with normal operation.

b. Have materials, equipment, and personnel required to perform the work at the site prior to the commencement of the work. Specific items of work to which this requirement applies include:

- (1) Blast & Paint Facility
- (2) Building 3202 Addition
- (3) Building 3205 Addition & Renovation

c. All existing NDBC Facilities will remain in operation during the entire construction period. Conduct operations so as to cause the least possible interference with normal operations of the activity. Adherence to contractor storage, laydown and parking areas will be strictly enforced.

d. Permission to interrupt any Activity roads, railroads, dock area, buoy maneuvering apron and/or utility service shall be requested in writing a minimum of 15 calendar days prior to the desired date of interruption.

e. The work under this contract requires special attention to the scheduling and conduct of the work in connection with existing operations. Identify on the construction schedule each factor which constitutes a potential interruption to operations.

The following conditions apply:

- (1) Building 3202 shall be protected from exposure to the weather when the building addition is being constructed. Operations in this building will continue during the construction period.
- (2) Building 3205 shall be operational during the construction period. The existing LRU Test Lab shall remain fully functional and dust control is of primary concern. Dust barriers shall be provided with entrance vestibules to control dust intrusion into the space. All utilities shall remain fully functional during normal business hours during the entire construction period. During final phases of the LRU Test Lab renovation a minimum of 2000 square feet of space shall remain fully functional with dust control barriers in place.
- (3) Building 3209 and support structures shall remain in operation until the Blast & Paint Facility is complete and final acceptance has been issued before demolition may commence on the Building 3209 Area.

f. Installed Equipment Relocation Coordination and Scheduling: The relocation of machine shop equipment from Building 3203 to Building 3202 new addition shall be accomplished in accordance with the following so NDBC functions are down for the least amount of time practical. The new facility shall have all the utility runs in place and complete to the point of connection for the equipment prior to commencing the installed equipment relocation. All materials and trades necessary to complete the installation and utility connections shall be on site at the start of the relocation of the equipment.

All loose ancillary equipment will be relocated by others.

Scheduling shall be planned so one piece of equipment takes no more than 3 working days to remove/relocate/reinstall and have operational.

g. Equipment Operation Verification: The existing equipment to be relocated shall have the operation verified by the contractor in the presence of the ROICC and NDBC prior to being disconnected and relocated. Following the installation in the new facility equipment operational verification will be performed in the presence of the ROICC and NDBC. Any and all deficiencies shall be corrected at the contractor's expense.

h. NDBC Access to Building 3202: NDBC staff/employees shall be allowed access to the new facility during the time period that the equipment is being relocated from Building 3203. These personnel will be moving loose ancillary equipment.

i. NMCI Contractor Access: The NMCI Contractor must be allowed access to the facility towards the end of construction (finishes 90% complete, rough-in 100% complete, Inside Plant (ISP)/Outside Plant (OSP) infrastructure in place) to provide equipment in the telecommunications rooms and make final connections. The Contractor will be required to coordinate their efforts with the NMCI contractor to facilitate joint use of building spaces during the final phases of construction and work the coordination effort into the construction schedule. Requirements for NMCI are specified in Part 4, D50 ELECTRICAL and G40 SITE ELECTRICAL UTILITIES.

1.4 CONTRACTOR ACCESS AND USE OF PREMISES

1.4.1 Activity Regulations

Ensure that Contractor personnel employed on the Activity become familiar with and obey Activity regulations including safety, fire, traffic and security regulations. Keep within the limits of the work and avenues of ingress and egress. To minimize traffic congestion, delivery of materials shall be outside of peak traffic hours (6:30 to 8:00 a.m. and 3:30 to 5:00 p.m.) unless otherwise approved by the Contracting Officer. Wear hard hats in designated areas. Do not enter any restricted areas unless required to do so and until cleared for such entry. The Contractor's equipment shall be conspicuously marked for identification.

1.4.1.1 Subcontractors and Personnel Contacts

Furnish a list of contact personnel of the Contractor and subcontractors including addresses and telephone numbers for use in the event of an emergency. As changes occur and additional information becomes available, correct and change the information contained in previous lists.

1.4.1.2 Identification Badges

Identification badges, if required, will be furnished without charge. Application for and use of badges will be as directed. Furnish a completed EMPLOYMENT ELIGIBILITY VERIFICATION form (DHS FORM I-9) for all personnel requesting badges. This form is available at <http://uscis.gov/graphics/formsfee/forms/fiels/i-9.pdf>. Immediately report instances of lost or stolen badges to the Contracting Officer.

All contractor personnel working at Stennis Space Center over 179 days per calendar year shall have a background check. NASA will pay for the background check.

52.204-9 Personal Identity Verification of Contractor Personnel.

As prescribed in 4.1303, insert the following clause:

Personal Identity Verification of Contractor Personnel
(Sept 2007)

- (a) The Contractor shall comply with agency personal identity verification procedures identified in the contract that implement Homeland Security Presidential Directive-12 (HSPD-12), Office of Management and Budget (OMB) guidance M-05-24 and Federal Information Processing Standards Publication (FIPS PUB) Number 201.

(b) The Contractor shall insert this clause in all subcontracts when the subcontractor is required to have routine physical access to a Federally-controlled facility and/or routine access to a Federally-controlled information system.

1.4.2 Contractor Personnel

All contractor personnel working at Stennis Space Center shall be U.S. Citizens.

1.4.3 Not Used

1.4.4 Not Used

1.4.5 Working Hours

Regular working hours shall consist of an 8 1/2 hour period between 7 a.m. and 3:30 p.m., Monday through Friday, excluding Government holidays.

1.4.6 Work Outside Regular Hours

Work outside regular working hours requires Contracting Officer approval. Make application 15 calendar days prior to such work to allow arrangements to be made by the Government, giving the specific dates, hours, location, type of work to be performed, contract number and project title. Based on the justification provided, the Contracting Officer may approve work outside regular hours. During periods of darkness, the different parts of the work shall be lighted in a manner approved by the Contracting Officer.

1.4.7 Not Used

1.4.8 Occupied and Existing Buildings

The Contractor shall be working in and around existing buildings which are occupied. Do not enter the buildings without prior approval of the Contracting Officer.

The existing buildings and their contents shall be kept secure at all times. Provide temporary closures as required to maintain security as directed by the Contracting Officer.

Provide dust covers or protective enclosures to protect existing work that remains and Government material located in the buildings during the construction period.

Relocate movable furniture as required to perform the work, protect the furniture, and replace the furniture in its original locations upon completion of the work. Leave attached equipment in place, and protect it against damage, or temporarily disconnect, relocate, protect, and reinstall it at the completion of the work.

The Government will remove and relocate other Government property in the areas of the buildings scheduled to receive work.

1.4.9 Utility Cutovers and Interruptions

- a. Make utility cutovers and interruptions after normal working hours or on Saturdays, Sundays, and Government holidays. Conform to procedures required in the paragraph "Work Outside Regular Hours."
- b. Ensure that new utility lines are complete, except for the connection, before interrupting existing service.
- c. Interruption to water, sanitary sewer, storm sewer, telephone service, electric service, air conditioning, heating, fire alarm and compressed air shall be considered utility cutovers pursuant to the paragraph entitled "Work Outside Regular Hours."
- d. Operation of Station Utilities: The Contractor shall not operate nor disturb the setting of control devices in the station utilities system, including water, sewer, electrical, and steam services. The Government will operate the control devices as required for normal conduct of the work. The Contractor shall notify the Contracting Officer giving reasonable advance notice when such operation is required.

1.4.9.1 Location of Underground Utilities

Obtain digging permits prior to start of excavation by contacting the Contracting Officer 15 calendar days in advance. Scan the construction site with electromagnetic or sonic equipment, and mark the surface of the ground or paved surface where existing underground utilities or utilities encased in pier structures are discovered. Verify the elevations of existing piping, utilities, and any type of underground or encased obstruction not indicated to be specified or removed but indicated or discovered during scanning in locations to be traversed by piping, ducts, and other work to be conducted or installed.

- a. 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.

-- End of Section --

SECTION 01 20 00.05 20

PRICE AND PAYMENT PROCEDURES FOR DESIGN-BUILD
11/07

PART 1 GENERAL

1.1 REFERENCES

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

U.S. ARMY CORPS OF ENGINEERS (USACE)

EP-1110-1-8 (2003) Construction Equipment Ownership and
Operating Expense Schedule, Vol 1-12

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES and Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Schedule of prices;G

1.3 SCHEDULE OF PRICES

1.3.1 Schedule Instructions

Payments will not be made until the Cost loaded Critical Path Method (CPM) schedule has been submitted to and accepted by the Contracting Officer. Identify the cost for site work, and include incidental work to the 5 foot line. Identify costs for the building(s), and include work out to the 5 foot line. Work out to the 5 foot line shall include construction encompassed within a theoretical line 5 feet from the face of exterior walls and shall include attendant construction, such as cooling towers, placed beyond the 5 foot line.

1.3.2 Schedule Requirements for HVAC TAB

The field work required by PTS Section D30, HVAC, shall be broken down in the NAS by separate line items which reflect measurable deliverables. Specific payment percentages for each line item shall be determined on a case by case basis for each contract. The line items shall be as follows:

- a. Approval of Design Review Report
- b. Approval of the pre-field engineering report
- c. Season I field work
- d. Approval of Season I report

- e. Completion of Season I field QA check
- f. Approval of Season II report

1.3.3 Data Required

If the contract requires the use of a cost loaded CPM the information required for the Schedule of Prices will be entered as an integral part of the Network Analysis Schedule (NAS) and its Mathematical Analysis. Provide a detailed breakdown of the contract price, giving quantities for each of the various kinds of work, unit prices, and extended prices therefore. Costs shall be summarized and totals provided for each construction category.

1.4 CONTRACT MODIFICATIONS

In conjunction with the Contract Clause "DFARS 252.236-7000, Modification Proposals-Price Breakdown," and where actual ownership and operating costs of construction equipment cannot be determined from Contractor accounting records, equipment use rates shall be based upon the applicable provisions of the [EP-1110-1-8](#).

1.5 CONTRACTOR'S INVOICE AND CONTRACT PERFORMANCE STATEMENT

1.5.1 Content of Invoice

Requests for payment will be processed in accordance with the Contract Clause "FAR 52.232-27, Prompt Payment Construction Contracts," and shall include items required by FAR 52.232-5, "Payments under Fixed-Price Construction Contracts" and the following:

- a. The Contractor's invoice certified by QC, on the form furnished by the Government for this purpose, showing in summary form, the basis for arriving at the amount of the invoice. Submit number of copies required by the Contracting Officer.
- b. The Contract Performance Statement on the form furnished by the Government for this purpose, showing in detail, the estimated cost, percentage of completion, and value of completed performance [for each of the construction categories stated in this contract]. Submit number of copies required by the Contracting Officer.
- c. Final invoice shall be accompanied by Final Release Form. If the contractor is incorporated, the release shall contain the corporate seal. An officer of the corporation shall sign the release and the corporate secretary shall certify the release.
- d. Updated schedule if not already submitted per Section 01 32 17.05 20.
- e. Contractor Safety Self Evaluation Checklist (original).
- f. Monthly Work-hour Report.
- g. Solid Waste Disposal Report.

1.5.2 Mailing of Invoices

- a. All invoices shall be forwarded with specific marking on the envelope. This marking shall be in the front lower left hand corner, in large letters, "INVOICES - ENCLOSED."
- b. Invoices not completed in accordance with contract requirements will be returned to the Contractor for correction of the deficiencies.
- c. Final invoices not accompanied by Final Release Form will be considered incomplete and will be returned to the Contractor.

1.6 PAYMENTS TO THE CONTRACTOR

Payments will be made on submission of itemized requests by the Contractor which comply with the requirements of this section, and will be subject to reduction for overpayments or increase for underpayments made on previous payments to the Contractor.

- a. Basis for Contracting Officer's consideration to allow progress payment for material delivered on the site (but not installed) and for completed preparatory work, as authorized under FAR 52.232-5(b), shall be (1) major high cost items and (2) long lead special order items. Materials that will not be paid for prior to installation include, but are not limited to, bulk quantities such as nails, fasteners, conduits, gypsum board, etc. In the request for progress payment, such items shall be specifically identified in the Contractor's estimates of work submitted for the Contracting Officer's approval in accordance with paragraph entitled "Schedule of Prices" above. At the time of invoicing, the amount billed shall be supported by documents establishing its value.

1.6.1 Payment for Materials On Site

Payment may be made for materials delivered to the site but not yet incorporated into the construction. Materials on site shall be listed as a separate item on the Contract Performance Statement. The value of the materials shall be supported by the Schedule of Prices and a separate list of all materials being invoiced shall be submitted with the invoice in the following format:

MATERIAL ON		MATERIAL		MATERIAL		MATERIAL
SITE LAST		RECEIVED		CONSUMED		ON
ITEM PERIOD	+	THIS PERIOD	-	THIS PERIOD	=	SITE

1.7 EQUITABLE ADJUSTMENTS: WAIVER AND RELEASE OF CLAIMS

- a. Whenever the Contractor submits a claim for equitable adjustment under any clause of this Contract which provides for equitable adjustment of the Contract, such claim shall include all types of adjustments in the total amounts to which the clause entitles the Contractor, including, but not limited to, adjustments arising out of delays or disruptions or both caused by such change.
- b. Except as the parties may otherwise expressly agree, the Contractor shall be deemed to have waived (1) any adjustments to

which it otherwise might be entitled under the clause where such claim fails to request such adjustments, and (2) any increase in the amount of equitable adjustments additional to those requested in its claim.

c. The Contractor agrees that, if required by the Contracting Officer, he will execute a release, in form and substance satisfactory to the Contracting Officer, as part of the supplemental agreement setting forth the aforesaid equitable adjustment. The Contractor further agrees that such release shall discharge the Government, its officers, agents and employees, from any further claims, including but not limited to, further claims arising out of delays or disruptions or both caused by the aforesaid change.

1.8 CHANGES ESTIMATES

In making all equitable adjustments under the Changes Clause, compensation for additions will be based upon estimated costs at the time the work is performed and credit for deductions will be based upon estimated costs at the time the Contract was made. In arriving at the amount of the change in price, if any, allowance may be made for profit overhead and general expenses, plant rental and other similar items.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 30 00.05 20

ADMINISTRATIVE REQUIREMENTS FOR DESIGN-BUILD
11/07

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)

15 CFR 772 Definition of Terms

15 CFR 773 Special Licensing Procedures

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES and Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Insurance;G

1.3 MINIMUM INSURANCE REQUIREMENTS

Procure and maintain during the entire period of performance under this contract the following minimum insurance coverage:

- a. Comprehensive general liability: \$500,000 per occurrence
- b. Automobile liability: \$200,000 per person, \$500,000 per occurrence for bodily injury, \$20,000 per occurrence for property damage
- c. Workmen's compensation as required by Federal and State workers' compensation and occupational disease laws.
- d. Employer's liability coverage of \$100,000, except in States where workers compensation may not be written by private carriers,
- e. Others as required by the State.

1.4 CONTRACTOR PERSONNEL REQUIREMENTS

1.4.1 Subcontractor Special Requirements

1.4.1.1 Asbestos Containing Material

All contract requirements of PART 4, F20 SELECTIVE BUILDING DEMOLITION, assigned to the Private Qualified Person (PQP) shall be accomplished directly by a first tier subcontractor.

1.4.1.2 HVAC TAB

All contract requirements of TAB work required by PART 4 D30, HVAC, shall be accomplished directly by a first tier subcontractor. No TAB work required by PART 4, D30, HVAC, shall be accomplished by a second tier subcontractor.

1.4.1.3 Qualified Testing Organization

All contract requirements of work required to be performed by a Qualified Testing Organization in PART 4, D50 ELECTRICAL and G40 SITE ELECTRICAL UTILITIES, shall be accomplished directly by a first tier subcontractor. No work to be performed by a Qualified Testing Organization, required by PART 4, D50 and G40 shall be accomplished by a second tier subcontractor.

1.5 SUPERVISION

Have at least one qualified supervisor capable of reading, writing, and conversing fluently in the English language on the job site during working hours. In addition, the Quality Control (QC) representative shall also have fluent English communication skills. The Supervisor (Superintendent) and the QC Representative shall be separate individuals.

1.6 NOT USED

1.7 NOT USED

1.8 NOT USED

1.9 NOT USED

1.10 NOT USED

1.11 NOT USED

1.12 CLEANUP

Leave premises "broom clean." Clean interior and exterior glass surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces. Clean equipment and fixtures to a sanitary condition. Replace filters of operating equipment. Clean debris from roofs, gutters, downspouts and drainage systems. Sweep paved areas and rake clean landscaped areas. Remove waste and surplus materials, rubbish and construction facilities from the site.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

NDBC Renovation & Expansion
Stennis Space Center, MS

-- End of Section --

SECTION 01 31 19.05 20

POST AWARD MEETINGS
011/07

PART 1 GENERAL

1.1 SUMMARY

This document includes post-award requirements for project kickoff and subsequent design and preconstruction meetings.

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Design Submittal Packaging Proposal: G

Project Schedule: G

Performance Assessment Plan (PAP); G

CDW Facilitator Experience Resume;G

CDW Preliminary Concept Design;G

CDW Basis of Design with Cost Estimate;G

CDW Concept Design Report;G

1.3 POST AWARD KICKOFF MEETING

The Post Award Kickoff (PAK) meeting is made up of Contract Administration, Concept Design Workshop (CDW), Partnering, and Scheduling. If mutually beneficial to the Contractor and the Government, these four elements may be addressed in a consecutive multi-day meeting or separate meetings.

1.3.1 PAK Meeting Schedule and Location

Within 21 calendar days after contract award, and prior to commencing work, meet with the Contracting Officer for the PAK meeting(s). The meeting shall be located at a specific time and place to be determined by the Contracting Officer.

1.3.2 PAK Meeting Outcomes

The meeting(s) outcomes are:

- a. Integrate the Contractor and all client representatives into the project team.
- b. Achieve consensus from the project team on any issues and concerns with the Contractor's technical proposal and the User's functional requirements. Confirm the design is within the project budget.
- c. Establish and explain policies and procedures for completion of a successful project.
- d. Establish clear lines of communication and points of contact for Government and Contractor team members.
- e. Obtain an acceptable conceptual design including floor and site plans, signed by the client, Contractor and other key team members.
- f. Establish project design schedule, design submittal packaging, and preliminary construction schedule in accordance with UFGS Section 01 32 17.05 20, Network Analysis Schedule (NAS) for Design-Build. Discuss design milestones and events that need to be included in the Quality Control Communication Plan.
- g. Establish clear expectations for facility turnover.
- h. Establish procedure for design packages reviews, Contractor's resolution to comments, and Government's role in review of packages.
- i. Establish clear expectations for the Concept Design Workshop.

1.3.3 PAK Meeting Contractor Attendees

The following Contractor key personnel shall attend the PAK: Project Manager, Project Scheduler, Lead Designer-of-Record (DOR), Design Staff responsible for each architectural/engineering discipline when facility design is discussed, Superintendent, QC Manager, and DQC Manager. Optional attendees include: Principal, Assistant Project Manager, major subcontractors and specialized supplemental QC personnel.

1.3.4 Contract Administration

Contract administration roles and responsibilities will be addressed.

1.3.5 Not Used

1.3.6 Concept Design Workshop (CDW)

Provide as specified in Appendix 01 31 19.05 20-1, CONCEPT DESIGN WORKSHOP.

1.3.6.1 CDW Meeting Attendees

The following Contractor key personnel shall attend the CDW: Project Manager, Project Scheduler, Cost Estimator, Lead Designer of Record, Design Staff representing each architectural/engineering discipline and Major Subcontractors when facility design is discussed, Superintendent, QC Manager, and DQC.

1.3.7 Partnering

LEVEL A PARTNERING: The Contractor shall conduct partnering sessions with key personnel of the project team, including Contractor's personnel and government personnel. The partnership will draw on the strength of each organization in an effort to achieve a quality project done right the first time, within budget, on schedule, and without any safety mishaps.

To most effectively accomplish this contract, the Government requires the formation of a cohesive partnership with the Contractor and its subcontractors. Key personnel, including the client who will occupy the facility, principal individuals from NAVFAC (Echelon III and/or IV), PWD FEAD, PM&E Branch, Construction Manager (CM)/ Resident Officer in Charge of Construction (ROICC), the project sponsor, and representative(s) of the facility owner will be invited to participate in the partnering process. Key members of the prime and subcontractors teams, including senior management, must participate.

The Contractor shall pay all costs associated with the partnering effort including facilitator, meeting room and other incidental items. Before the partnering session, the contractor shall coordinate with the facilitator requirements for incidental items (audio-visual equipment, two easels, flipchart paper, colored markers, note paper, pens/pencils, colored flash cards, etc.) and have these items available at the partnering session. The contractor will copy documents for distribution to all attendees. The participants shall bear their own costs for meals, lodging and transportation associated with partnering.

a. The Initial Partnering Session shall be a duration of one day minimum Located at a place off base as agreed to by the partners. May take place concurrently with the PAK Meeting with Contractor's Participants to include those listed in paragraph "PAK Meeting Attendees". The Contractor shall provide a Facilitator who is experienced in conducting Partnering Workshops. The Facilitator is responsible for leading the team in a timely manner and making sure that issues are identified and resolved. The Facilitator shall be acceptable to the CM/ROICC.

b. The Follow on Partnering Session(s) generally lasts a half day or less and is encouraged to utilize electronic means to expedite meetings. Meetings may be held at a location off Base, at the project site, or in a Government Facility on Base. Schedule quarterly meetings and may be held concurrently with other scheduled meetings, such as QC meetings. Participants may be only those required to resolve current issues. No facilitator required unless desired by the partners.

1.3.7.1 Performance Assessment Plan (PAP)

The Performance Assessment Plan (PAP) shall be used to document design innovation and budget management, provide performance feedback to the Contractor, and as a basis for interim and final evaluations in the Construction Contractor Appraisal System (CCASS) on-line database.

It is the intent of the Government to establish the PAP based on tangible, measurable indicators of outstanding contractor performance, and on commitments made in the Contractor's proposal. The initial PAP may be found on the NAVFAC Design-Build Request for Proposal Website in RFP PART 6 Attachments. Review and finalized the initial PAP during the Partnering Session. During the initial Partnering Session, the Government, the Contractor, the Designer-of-Record, and the Client will establish the PAP. Following the establishment of the PAP, the Contractor will present it, with his input, for update and discussion at projects meetings which discuss project performance. Submit an updated PAP on a monthly basis with the invoice for that period as a minimum.

1.3.8 Project Schedule

Provide in accordance with Section 01 32 17.05 20 NETWORK ANALYSIS SCHEDULES (NAS) FOR DESIGN-BUILD.

1.4 DESIGN QUALITY ASSURANCE MEETINGS

After Government Quality Assurance (QA) of each Design Submittal has been completed, meet with the Government for a one-day conference to discuss review comments for the specific design submittal.

Provide consolidated copies of all Government comments with annotations of Contractor's action beside them. Notify the Contracting Officer in writing within five (5) days after receipt of Government's comments if the Contractor disagrees with comments technically or interprets comments to exceed the requirements of the contract.

1.4.1 Design QA Meeting Attendees

The following Contractor key personnel shall attend the design QA meetings: Project Manager, QC Manager, DQC Manager, and Contractor's Design Staff (architect and engineering disciplines related to topics to be discussed).

1.4.2 Design QA Meeting Location

Meetings shall be located at the office of the Contracting Officer's QA Team or may be conducted at other locations or by other electronic means if mutually acceptable to all parties.

1.4.3 Minimum Design QA Meeting Agenda

Address all Government comments that are unresolved and present clarification or supporting information requested by the Contracting Officer's QA team during the previous meeting.

1.5 PRECONSTRUCTION MEETING

Meet with the Contracting Officer to discuss construction items of concern to the Government and the Contractor such as outages, storage, trailer location, disposal of construction debris, and safety, at a location to be determined by the Contracting Officer. The Preconstruction meeting may take place with the PAK meeting or at any time prior to mobilization and before any construction work begins.

1.6 RECURRING MEETINGS

1.6.1 Quality Control and Production Meetings

Provide Quality Control and Production Meetings in accordance with UFGS Section 01 45 00.05 20, Design and Construction Quality Control.

1.6.2 Safety Meetings

Provide Safety Meetings in accordance with UFGS Section 01 35 29.05 20, Safety and Occupational Health Requirements for Design-Build.

1.7 FACILITY TURNOVER PLANNING MEETINGS (NAVFAC RED ZONE - NRZ)

Key personnel will meet to identify strategies to ensure the project is carried to expeditious closure and turnover to the Client. Start the turnover process at the PAK Meeting and convene the Facility Turnover Meetings once the project has reached approximately 75% completion or three to six months prior to Beneficial Occupancy Date (BOD), whichever comes first. The Contracting Officer's Representative will lead the meetings and guide the discussions based on an agenda provided by the Government. The Facility Turnover effort shall include the following:

- a. PAK Meeting - Contracting Officer's Technical Representative (COTR) will provide the NRZ Checklist and the Contractor, Client, and NAVFAC Representatives will compare Contractor's schedule to NRZ Checklist to ensure all Contractor Checklist Items are included in the schedule and to discuss the scheduling impact of Client and NAVFAC Checklist Items.
- b. Facility Turnover Meetings -
 1. Fill in the NRZ Checklist including Contractor, Client, and NAVFAC Checklist Items and assign a person to be responsible for each item and a due date. The Contracting Officer's Representative will facilitate the assignment of responsibilities and fill out the NRZ Checklist.
 2. Review the Contractor's updated schedule. The Contracting Officer's Representative shall develop a POAM for the completion of all Contractor, Client, and NAVFAC Checklist items.
 3. Confirm that all NRZ Checklist items will be completed on time for the scheduled Facility Turnover.

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1.7.1 Facility Turnover Meeting Attendees

The following key personnel shall attend the Facility Turnover Meetings: Contractor QC Manager, Design Quality Control Manager, Superintendent, Major Subcontractors, Designer-of-Record, Contracting Officer's Representative, Representative(s) of NAVFAC, the Facility Owner, and the Client.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

Appendix 01 31 06-1
CONCEPT DESIGN WORKSHOP(CDW)

Provide the following information:

- a. CDW Facilitator Experience Resume
- b. CDW Preliminary Concept Design
- c. CDW Basis of Design with Cost Estimate
- d. CDW Concept Design Report

1. General

1.1 Methodology. A Concept Design Workshop will be conducted for this project. This effort will examine project functions and requirements, quality and life safety costs, analyze alternate design concepts, expose and resolve project issues, and develop the final conceptual design.

1.2 Facilitator. The Contractor will provide a Facilitator who is experienced in conducting Concept Design Workshops. He or she will be responsible for leading the team in a timely manner, making sure that issues are pursued and resolved to the maximum extent possible, documenting meetings, organizing the design concept documents for on-site approval, and providing the Concept Design Workshop Report.

1.3 Contractor's Design Team. The primary functions of the Design Team will be to investigate, develop and present alternate design solutions. The entire Design Team will participate in all phases of the Concept Design Workshop effort and provide assistance to the Facilitator in development of the Concept Design Workshop Report, including most of the required documentation.

1.4 Concept Design Workshop Report. Produced almost entirely on-site, the Concept Design Workshop Report will summarize the final conceptual design.

1.5 Award Amount. At each contract stage, the Contractor shall verify that the concept is within the contract award amount.

2. Procedure

2.1 Preliminary Work. The Contractor's Design Team shall complete the following prior to the on-site workshop:

- a. Review the contract documents and references explaining the project scope and history.
- b. At the Post Award Kickoff meeting, the User(s) makes a presentation of their functional requirements.
- c. Prepare and submit, at least 14 days in advance of the Concept Design Workshop, 15 copies of a preliminary concept

design (Concept #1), a Basis of Design, and a statement that the concept provided is within the award amount.

d. Make arrangements for and provide an appropriate conference room convenient to the project site and/or Users for use by the Design Team and government participants during the workshop.

e. Incorporate government comments in a revised Concept #1 and produce at least 20 copies of the revised Concept #1 documents for distribution at the workshop.

f. Facilitator conducts meeting with NAVFAC representatives before the Concept Design Workshop to review preparations, relationships, and the status of work to be accomplished.

2.2 On-Site Workshop. The Design Team shall accomplish the following items during the on-site phase of the Concept Design Workshop. (Typically conducted in four to six working days, minimizing breaks so as to maintain momentum. The Design Team should expect longer than normal workdays.)

a. On the first day of the workshop, meet with the using activity, Station and other Government representatives. The Facilitator will describe the Concept Design Workshop process and review the workshop agenda. The user(s) will provide a functional presentation. This is to reiterate to all participants the User(s) needs and desires. The intent is to make the design solution and issue resolution function-oriented.

b. Present the revised Concept #1 and respond to questions.

c. Participate in a comment/creative session to generate ideas to improve this project in the areas of function, quality and total life cycle cost, issue resolution and sustainable design within the award amount. It is often helpful to request User comments in writing so they may be considered, responded to, and presented at subsequent presentations.

d. Create a new concept design. Design concepts shall include drawings, sketches, and other graphics as necessary to fully describe the concept. Prepare at least 20 copies for distribution at all presentations.

e. Repeat applicable steps as necessary. Usually, three concepts are required. The final concept must be within the contract award amount.

f. The final concept shall include the following:

(1) Site Plan: Show the layout of the proposed facility in relation to major landmarks. Show all buildings, access roads, parking, pedestrian walkways, roads, sidewalks, landscaping, and major utilities. Indicate major dimensions and orientation. Provide a building code analysis, relating

the proposed building site, size, and construction type to maximum allowable limits of the International Building Code.

(2) Building Floor Plans: Provide floor plans depicting functional utilization of spaces and furniture and equipment layout. Show room sizes or dimensions. Provide a Life Safety Code® analysis with the floor plan to identify required life safety and egress features.

(3) Perspective Sketches: Provide at least one sketch to show a perspective of major buildings. The sketch should not be elaborate but must show the proposed form and massing, colors to be used, and an indication of materials used.

(4) Mechanical Plans: Provide plans as necessary to show the essential work and intent of the design. Suggestions include equipment layouts, zones, etc.

(5) Electrical Plans: Provide plans as necessary to show the essential work and intent of the design. Suggestions include special light fixture types, locations, switching, power outlets and panelboard location. Provide electrical distribution single line diagram.

(6) Cost Estimate: Provide a statement that the concept presented can be constructed within the award amount.

(7) Basis of Design: Describe, in layman's terms, the intent of the design by discipline. Address material quality, energy efficiency and life cycle costs.

(8) Sustainable Design: Demonstrate ability to achieve certifiable, LEED Silver, for Building 3205.

(9) System Safety Engineering

g. Prepare 20 copies of the final concept (drawings, basis of design and statement that the concept is within the award amount) for distribution at the final presentation.

h. Dependent upon the project, the Concept Design Workshop Report is provided by the Facilitator, includes all items included in the final concept design and the following:

(1) Endorsements: Include a copy of the signature/endorsement sheet.

(2) Comments: Include comments and resolutions concerning the final concept design.

(3) Executive Summary: Summarize the workshop, including how the various concepts differed and were improved during the workshop.

(4) Special Design Features: Identify and describe unique project needs and features, e.g., pile foundations, physical security, intrusion detection systems, access control,

construction in humid climates, pollution abatement, tempest, HEMP, etc.

(5) Architectural Compatibility Statement: Identify architectural style, materials, and color scheme; and indicate their compatibility with installation planning and design concepts established in the Base Exterior Architectural Plan.

(6) Environmental Summary: Provide a summary of environmental issues, listing completed actions and items requiring further coordination, waivers or permits.

(7) Supporting Project Documentation: Include data to support the development of the concept design, layout, and special features. Items should include: project scope discussion, minutes of meetings, function analysis work sheets, and economic and technical analyses if alternatives evaluated.

i. Except for final comments, responses and endorsements, the final report should be completed (electronically) on site, before the final presentation. If requested by the NAVFAC Project Manager, be prepared to present up to 10 hard copies of the report at the conclusion of the workshop.

j. Conduct a "front-to-back" comprehensive presentation of the final concept. Obtain user signatures on a conceptual design endorsement sheet, signifying approval of the concept design, subject to the final comments and their resolutions agreed to at the final presentation meeting.

2.3 Concept Design Workshop Report

Within 14 calendar days of completion of the on-site Concept Design Workshop, the Design Team shall submit to the NAVFAC Project Manager an electronic copy of the Concept Design Workshop Report as one file in *.PDF format.

-- End of Section --

SECTION 01 32 17.05 20

NETWORK ANALYSIS SCHEDULES (NAS) FOR DESIGN-BUILD
11/07

PART 1 GENERAL

1.1 DESCRIPTION

The Contractor is responsible for scheduling all design, procurement and construction. A single schedule shall logically incorporate all design and construction for the entire project. Unless otherwise indicated, the contractor may begin construction when design is signed, stamped and submitted to the Government via the Contractor's quality control organization.

Design activities shall include design decision points, design submittal packages, such as site and building, as well as design submittals, such as design development and final design. Review times for design development packages shall be included in the schedule. Refer to Specification Section 01 33 10.05 20 Design Submittal Procedures, for specific requirements.

If Government approval is required for any portion of a final signed and sealed design package prior to construction, that review time shall be included in the schedule. The schedule shall also include times for procurement, Contractor quality control and construction, acceptance testing and training. Refer to Specification Section 01 33 00.05 20 Construction Submittal Procedures to determine if any items require Government approval prior to construction; if any are required, that submittal review time shall be included in the schedule.

The schedule is a tool to manage the project, both for Contractor and Government activities. It will also be used to measure progress and to evaluate time extensions and it will provide the basis for progress payments.

The Contractor shall use the Critical Path Method (CPM) and the Precedence Diagram Method (PDM) to satisfy time and cost applications. For consistency, when scheduling software terminology is used in this specification, the terms in Primavera's scheduling programs are used.

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES and Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Network Analysis Schedule (NAS);G

Final Schedule;G

SD-07 Certificates

Monthly Network Analysis Schedule Updates;G

1.3 SCHEDULE ACCEPTANCE PRIOR TO START OF WORK

Review comments made by the Government on the Contractor's schedule(s) will not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for scheduling, sequencing, and prosecuting the Work to comply with the requirements of the Contract Documents.

The NAS must be submitted and accepted by the Government before the Contractor will be allowed to start work on the construction stage(s) of the contract.

Only bonds will be paid prior to acceptance of the Schedule. Submittal of the Network, and subsequent schedule updates, will be understood to be the Contractor's certification that the submitted schedule meets all of the requirements of the Contract Documents, represents the Contractor's plan on how the work will be accomplished, and accurately reflects the work that has been accomplished and how it was sequenced (as-built logic).

1.4 SOFTWARE

Use the scheduling software Primavera Project Planner (P3)[™], Current Version, or Primavera SureTrak[™], Current Version, by Primavera Systems, Inc. Save files in Concentric P3 format (.prx).

1.5 NETWORK SYSTEM FORMAT

The system shall include time scaled logic diagrams and specified reports.

1.5.1 Diagrams

With the exception of the Contract Award, and End Contract milestone activities, no activities will be open-ended. The diagram shall clearly show the activities of the critical path. Once an activity exists on the schedule it may not be deleted or renamed, and must remain in the logic. No more than 20 percent of the activities may be critical or near critical. Show the following information on the diagrams for each activity:

- a. Activity ID
- b. Activity Description
- c. Original Duration in Work Days
- d. Remaining duration
- e. Percent Complete
- f. Early Start Date

- g. Early Finish Date
- h. Total Float

Provide a time-scaled logic network diagrams plotted/printed in color on ANSI D sheets.

1.5.2 Schedule Activity Properties and Level of Detail

1.5.2.1 Activity Categories

- a. Design Activities
- b. Procurement Activities
- c. Government Activities
- d. Quality Management (QM) Activities
- e. Construction Activities

No on-site construction activity (definable feature of work) shall have a duration in excess of 20 working days. Contractor activities will be driven by calendars that reflect Saturdays, Sundays and all Federal Holidays as non-work days, unless otherwise defined in this contract.

1.5.2.2 Contract Milestones and Constraints

- a. Contract Start Date Milestones: The Contractor shall include as the first milestone and equal to the Contract Award and NTP dates.
- b. Facility Turnover: The Contractor shall utilize the Facility Turnover Meetings and the NAVFAC Red Zone Checklist to determine any necessary revisions to the schedule. Coordinate with UFGS Section 01 31 19.05 20, Post Award Meetings.
- c. Last Activity Milestone: The Contractor shall include "End Contract" as the last milestone and equal to the contract completion date.
- d. All float calculation shall reflect positive float.
- e. Early Contract Completion: If the event the Contractor's schedule shows completion prior to the contract completion date, the Contractor shall include an activity named "Contractor Early Completion". The only successor activity to this activity will be the "End Contract" milestone.

1.5.2.3 Activity Code

The Contractor shall establish a maximum of 6 activity codes, identified prior to schedule development. The activity codes allow for grouping activities for different situations and sorting, and shall be sufficient for reports and tracking for the project.

1.5.2.4 Anticipated Weather Delays

Use where available, National Oceanic and Atmospheric Administration's (NOAA) historical monthly averages for the NOAA location closest to the contract site. The number of anticipated adverse weather delays allocated to an activity will be reflected in the activity's calendar.

1.5.2.5 Cost Loading

Equipment costs will be assigned to their respective procurement activities (i.e., the delivery milestone activity). Costs for installation of the material/equipment (labor, construction equipment, and temporary materials) will be assigned to their respective construction activities.

1.5.3 Schedule Software Settings and Restrictions

- a. Activity Constraints: Date/time constraint(s), other than those required by the contract, will not be allowed unless accepted by the Contracting Officer. Identify any constraints proposed and provide an explanation for the purpose of the constraint in the Narrative Report.
- b. Default Progress Data Disallowed: Actual Start and Actual Finish dates on the CPM schedule shall match the dates on the Contractor Quality Control and Production Reports.
- c. Software Settings: Schedule calculations and Out-of-Sequence progress (if applicable) shall be handled through Retained Logic, not Progress Override. All activity durations and float values will be shown in days. Activity progress will be shown using Remaining Duration. Default activity type will be set to "Task".

1.5.4 Required Tabular Reports

The following reports shall be included with the schedule and update submittals:

- a. Log Report: List all changes made between the previous schedule and current updated schedule.

Show changes for: Added & Deleted Activities, Durations, Remaining Durations, Activity Percent Complete, Total Float, Free Float, Calendars, Descriptions, Constraints, Added/Deleted Relations, Changed Relation Lags, Changed Driving Relations, and Changed Critical Status, [Added/Deleted Resources, Resource Quantities, Costs, Resource Percents, Earned Value Report: List all activities showing budget amount and cost.]

- b. Late Start / Late Finish Report: Use Late start/Actual start --Late finish/Actual finish sort (sorted by late start in chronological order).

- c. Narrative Report: Include abstract of what activities are and are not on schedule, critical path events for the following month, milestones that must complete the following month.

1.6 SUBMISSION AND ACCEPTANCE

The Contractor shall submit a preliminary schedule prior to the Post-Award Kickoff (PAK). This preliminary schedule shall include detailed design and preliminary construction activities. It shall reflect the logic of the Contractor's approach to the project. The Contractor shall present this schedule for discussion at the PAK. The discussion shall include the logic and reasonableness of the schedule, its ability to help the Government schedule work, and how the contractor intends to use the schedule.

The Contractor shall develop the schedule as design progresses, with detailed construction activities when each design package is final. Payment for completed work is dependent on an accepted, detailed schedule for that portion of work. Provide the following with each scheduled submittal:

- a. Network diagrams.
- b. Reports listed in paragraph entitled "Required Tabular Reports."
- c. Data disks containing the project schedule. Include the back-up native .prx files.

1.6.1 Monthly Network Analysis Updates

At monthly intervals the Contractor and Government representatives will meet to jointly update and/or discuss and agree to be updated project schedule. The submission of an acceptable, updated schedule to the Government is a condition precedent to the processing of the Contractor's pay request. If a Schedule of Prices is the basis for progress payments, it shall be consistent with the logic and activity breakdowns on the progress schedule. If progress payments are based on a cost-loaded schedule, the Contractor and Government shall agree on percentage of payment for each activity progressed during the update period.

1.6.2 Final Schedule

As a condition precedent to the release of retention and making final payment, submit a "Final Schedule," as the last schedule update showing all activities at 100 percent completion. This schedule shall reflect the exact manner in which the project was actually constructed.

1.7 CONTRACT MODIFICATION

Submit a Time Impact Analysis with each cost and time proposal for a proposed change. Time Impact Analysis (TIA) shall illustrate the influence of each change or delay on the Contract Completion Date or milestones.

- a. Each TIA shall include a Fragmentary Network (fragnet) demonstrating how the Contractor proposes to incorporate the impact into the contract schedule. A fragnet is defined as the sequence of new activities and/or activity revisions, logic relationships and resource changes that are proposed to be added to the existing schedule to demonstrate the influence of impacts to the schedule. The fragnet shall identify the predecessors to the new activities and demonstrate the impacts to successor activities. The Contractor shall run the schedule

calculations and submit the impacted schedule with the proposal or claim.

b. Following the Contractor's receipt of a conformed contract modification, all changes in the fragnet used to determine impacts shall be incorporated into the schedule.

1.8 FLOAT

Contract float available in the schedule, at any time shall not be considered for the exclusive use of either the Government or the Contractor. Project Float will be a resource available to both the Government and the Contractor. Use of float suppression techniques is prohibited.

1.9 MONTHLY LOOK AHEAD SCHEDULE

Prepare a Monthly look ahead schedule from the Contract CPM Schedule showing planned work for the current week and subsequent three-week period. The monthly look ahead schedule shall be reviewed during each QC/ Production Meeting.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 33 00.05 20

CONSTRUCTION SUBMITTAL PROCEDURES
11/07

PART 1 GENERAL

1.1 RELATED REQUIREMENTS

This section covers construction submittals that are not included in the design submittals. Submit design submittals in accordance with 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES. When using Unified Facility Guide Specifications (UFGS) sections that reference Section 01 33 00 SUBMITTAL PROCEDURES, change reference to this section, Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

1.2 SUBMITTAL DESCRIPTIONS (SD)

Submittal requirements are specified in Unified Facilities Guide Specifications (UFGS) in Part 2, GENERAL REQUIREMENTS; in references in Part 4 PERFORMANCE TECHNICAL SPECIFICATIONS; and in UFGSs in Part 5, PRESCRIPTIVE SPECIFICATIONS. Submittals that are identified by SD numbers use descriptions of items included in submittal packages and titles as follow:

SD-01 Preconstruction Submittals

- Certificates of insurance.
- Surety bonds.
- List of proposed subcontractors.
- List of proposed products.
- Construction Progress Schedule.
- Submittal register.
- Schedule of values.
- Health and safety plan.
- Work plan.
- Quality control plan.
- Environmental protection plan.

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

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

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

SD-04 Samples

Physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-05 Design Data

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

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. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

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

Investigation reports.

Daily checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

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

Document required of Contractor, or of a supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and Material Safety Data sheets concerning impedances, hazards and safety precautions.

SD-09 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

Factory test reports.

SD-10 Operation and Maintenance Data

Data that is furnished by the manufacturer, or the system provider, to the equipment operating and maintenance personnel. This data is needed by operating and maintenance personnel for the safe and efficient operation, maintenance and repair of the item.

SD-11 Closeout Submittals

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

OMSI manuals submitted at various stages and progression of construction.

1.3 SUBMITTALS

The use of a "G" following a submittal indicates that an approval action is required, either by the Government or by the Contractor's Designer of Record (DOR) or QC Specialist.

Submit the following in accordance with the requirements of this section.

SD-01 Preconstruction Submittals

Submittal Register Format;G

1.3.1 Submittal Register

The submittal register will be prepared during the initial design stages of the project and indicate each design and construction submittal. Maintain an electronic version of the submittal register as work progresses. The DOR must assist the DQC in preparing the submittal register by determining all project submittals that require DOR approval. The Contractor proposed submittal register format must include all types of information pertinent to the submittal process and be approved by the Contracting Officer prior to the first submission.

1.4 CONSTRUCTION QUALITY CONTROL

1.4.1 Contractor Reviewing, Certifying, Approving Authority

The QC organization is responsible for reviewing and certifying that submittals are in compliance with the contract requirements.

In RFP PART 4 PERFORMANCE TECHNICAL SPECIFICATIONS (PTS), there are UFGS specification sections required to be submitted as part of the design submittal. Unless specified otherwise in this section, the Contractor's DOR is the approving authority for submittals listed in these UFGS specifications with a "G" designation, unless the DOR delegates to Contractor Quality Control approval. RFP Part 4 PTS sections also include submittals identified for DOR approval that are not denoted with a "G" designation, these submittals cannot be delegated for Contractor Quality Control approval. If RFP PART 5 PRESCRIPTIVE SPECIFICATIONS are utilized in this RFP, the Contractor's DOR is the approving authority for submittals listed with a "G" designation, unless the DOR delegates to Contractor Quality Control approval.

DOR shall approve construction submittals that are incorporated in the design submittal prior to being submitted to the Government for design submittal approval. Indicate approval of these construction submittals on the accompanying submittal register for that design package.

Submittal items identified in RFP PARTS 2, 4, and 5 that are not identified with a "G" designation or not designated for DOR approval (in RFP Part 4) are for Contractor Quality Control approval.

Construction submittals that are approved by the DOR or certified by the QC are not required to be submitted to the Government for surveillance, except where specified in paragraph SUBMITTALS RESERVED FOR GOVERNMENT SURVEILLANCE.

1.4.2 Submittals Reserved for Government Approval

The Government is the approving authority for submittals with a "G" designation in RFP Part 2 GENERAL REQUIREMENTS specification sections. Comply with additional Government approval requirements for Environmental submittals, as specified in RFP Part 2, Section 01 57 19.00 20 TEMPORARY ENVIRONMENTAL CONTROLS.

1.4.2.1 Scheduling for Government Approved Submittals

Except as specified otherwise, allow review period, beginning when Government receives submittal from the QC organization, of 20 working days for return of submittal to the Contractor. Period of review for submittals with Contracting Officer approval begins when Government receives submittal from QC organization. Period of review for each re-submittal is the same as for initial submittal.

1.4.3 Submittals Reserved for Government Surveillance

Surveillance submittals are approved by the Contractor in accordance with paragraph CONTRACTOR REVIEWING, CERTIFYING, AND APPROVING AUTHORITY, but provide the Government the opportunity to oversee critical project issues.

If during the Government surveillance of construction submittals, items are brought to the Contractor's attention as non-compliant, the Contractor shall correct the submittal and construction to comply with the requirements of the RFP. Stamp surveillance submittals "APPROVED" by the DOR or QC Specialist and "FOR SURVEILLANCE ONLY." Submit the following Government surveillance submittals, prior to starting work for construction submittal items, and after the completion of the work for reports submittals items. .

- a. Submit fire protection related submittals pertaining to spray-applied fire proofing and fire stopping, exterior fire alarm reporting systems, interior fire alarm & detection systems, and fire suppression systems including fire pumps and standpipe systems.
- b. Submit geotechnical related submittals pertaining to the soils investigations (reports and soils analysis), foundations (shallow and deep), pavements structure design, test pile and production pile testing and installation.
- c. Submit conveying related submittals pertaining to elevators, escalators, weight handling equipment, lifts, and conveyors.
- d. Submit roofing submittals pertaining to materials and systems used to make up the roof system.

- e. Submit HVAC Testing, Adjusting, and Balancing required submittals.
- f. Submit telecommunications shop drawings, as described in Part 4, D50 ELECTRICAL, for coordination with the NMCI Contractor.
- g. Submit Performance Verification and Acceptance Testing submittals listed in the PTS and referenced UFGS.
- h. Submit all Interim Special Inspection Reports on a bi-weekly basis until work requiring special inspections is complete. Submit all Structural Observation Reports and the Final Report of Special Inspections.
- i. Submit Final LEED Certification Documentation for US Green Building Council Certification.

1.4.4 Constraints

- a. Submittals shall be complete for each definable feature of work; submit components of definable feature interrelated as a system at the same time.
- b. Approval of a separate material, product, or component does not imply approval of assembly in which item functions.

1.4.5 Variations

Variations from contract requirements require Government approval and will be considered where advantageous to the Government.

1.4.5.1 Considering Variations

Variations from contract requirements including the solicitation, the accepted proposal, and the final design, require Government approval and will be considered where advantageous to the Government. Variations to the contract requirements must be approved by the Designer of Record prior to submittal to the Government for approval of the Variation.

1.4.6 Contractor's Responsibilities

Ensure no work has begun until submittals for that work have been "approved" or "approved as noted."

1.4.7 QC Organization Responsibilities

Stamp each sheet of each submittal with QC certifying statement or approving statement, except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only.

- a. When approving authority is Contracting Officer, QC organization will certify submittals, assure proper signatures, and forward to Contracting Officer with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with contract Number (insert contract number here), is in compliance with the contract documents, can be installed in the allocated spaces, and is submitted for Government approval.

RFP Part Two Submittals:

Certified by QC Manager _____, Date _____
(QC Manager)

RFP Part Four and Part Five Submittals:

Certified by DOR _____, Date _____

Certified by QC Manager _____, Date _____"

(1) Sign certifying statement or approval statement. The person signing certifying statements shall be QC organization member designated in the approved QC plan. The signatures shall be in original ink. Stamped signatures are not acceptable.

(2) Update submittal register database as submittal actions occur and maintain the submittal register at project site until final acceptance of all work by Contracting Officer.

(3) Retain a copy of approved submittals at project site, including Contractor's copy of approved samples.

b. When the Approving Authority is the Designer of Record, the DOR shall approve, professionally stamp, sign, and date submittals. DOR stamp on construction submittals or submission of design documents that include construction submittals indicates DOR approval for construction. QC organization will certify submittals, assure proper signatures, and forward to Contracting Officer with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with contract Number (insert contract number here), is in compliance with the contract requirements, can be installed in the allocated spaces, and is submitted for DOR approval.

RFP Part Four and Part Five Submittals:

Approved by DOR _____, Date _____

Certified by QC Manager _____, Date _____"

(1) Sign certifying statement or approval statement. The person signing certifying statements shall be QC organization member designated in the approved QC plan. The signatures shall be in original ink. Stamped signatures are not acceptable.

(2) Update submittal register database as submittal actions occur and maintain the **submittal register** at project site until final acceptance of all work by Contracting Officer.

(3) Send copies of final DOR or QC Specialist approved and signed submittals that are identified in this section for Government surveillance to the Contracting Officer. Stamp copies "For Surveillance Only."

1.4.8 Government's Responsibilities

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

- a. Note date on which submittal was received from QC Manager, on each submittal.
- b. Review submittals for compliance with contract documents.

1.4.8.1 Government Actions

Submittals will be returned with one of the following notations:

- a. Submittals marked "approved" or "approved as submitted" authorize Contractor to proceed with work covered.
- b. A submittal marked "not reviewed" will be returned with an explanation of the reason it was not reviewed.
- c. Submittals marked "approved as noted" or "approval except as noted; resubmission not required" authorize Contractor to proceed with work as noted provided Contractor takes no exception to the notations.
- d. Submittals marked "revise and resubmit" or "disapproved" indicate submittal is incomplete or does not comply with design concept or requirements of the contract documents and shall be resubmitted with appropriate changes. No work shall proceed for this item until resubmittal is approved.
- e. Submittals required for surveillance will be returned only if corrective actions are required.

1.5 FORMAT OF SUBMITTALS

1.5.1 Transmittal Form

Transmit submittals with transmittal form prescribed by Contracting Officer and standard for the project.

1.5.1.1 Combined Design and Construction Submittal Notification

Indicate on the design submissions transmittal form, which construction submittals have been combined with the design documents. Coordinate transmittal form list of combined design and construction submittals with submittal register to indicate DOR approval of all combined submittals.

1.6 QUANTITY OF SUBMITTALS

1.6.1 Quantity of Submittals Reserved for Government Approval

Submit four copies of submittals of shop drawings requiring review and approval by Contracting Officer.

1.6.2 Quantity of Submittals Reserved for Government Surveillance

Submit three copies of submittals specified for surveillance to the Contracting Officer if not electronically submitted in WebCM. Submit two additional copies of elevator submittals directly to the NAVFAC Elevator Specialist responsible for the NAVFAC elevator certification of the project.

-- End of Section --

SECTION 01 33 10.05 20

DESIGN SUBMITTAL PROCEDURES
11/07

PART 1 GENERAL

1.1 SUMMARY

This section includes requirements for Contractor-originated design documents and design submittals.

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. The latest version of the publication at time of award shall be used.

U. S. GREEN BUILDING COUNCIL

USGBC LEED-NC USGBC LEED for New Construction Green Building Rating System

USGBC LEED-NC USGBC LEED for New Construction Reference Guide

U.S. DEPARTMENT OF DEFENSE (DOD) UNIFIED FACILITIES CRITERIA (UFC)

UFC 1-200-01 General Building Requirements

UFC 1-300-08 Criteria for Transfer and Acceptance of Military Real Property Handbook

UFC 1-300-09N Design Procedures

UFC 3-100-10N Architecture

UFC 3-120-10 Interior Design

UFC 3-200-10N Civil

UFC 3-201-02 Landscape

UFC 3-220-01N Geotechnical Engineering Procedures for Foundation Design of Buildings and Structures

UFC 3-300-10N Structural

UFC 3-400-10N Mechanical

UFC 3-500-10N Electrical

UFC 3-600-01	Fire Protection Engineering for Facilities
UFC 3-600-10N	Fire Protection
UFC 3-800-10N	Environmental

1.3 GENERAL DOCUMENTATION REQUIREMENTS

Contractor-originated design documents shall represent a project design that complies with the Request For Proposal (RFP), UFC 1-300-09N and the architectural and engineering discipline UFC's design guidance listed below.

- a. UFC 1-200-01
- b. UFC 3-100-10N
- c. UFC 3-120-10
- d. UFC 3-200-10N
- e. UFC 3-201-02
- f. UFC 3-220-01N
- g. UFC 3-300-10N
- h. UFC 3-400-10N
- i. UFC 3-500-10N
- j. UFC 3-600-01
- k. UFC 3-600-10N
- l. UFC 3-800-10N

1.4 SUBMITTALS

Submit design submittals, including shop drawings used as design drawings, to the Government for approval. The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with this section and Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Consolidated RFP Documents; G

Submittal Register; G

SD-04 Samples

Final framed rendering and copies; G

SD-05 Design Data

Design Drawings;G

Specifications;G

Design Analysis;G

DD Form 1354;G

Design Submittals;G

Sustainable Design;G

Project Rendering;G

SD-07 Certificates

LEED Green Building Rating System (GBRS)); G

SD-11 Closeout Submittals

Record Documents;G

1.5 DESIGN QUALITY CONTROL

1.5.1 Contractor Reviewing and Certifying Authority

The QC organization is responsible for reviewing and certifying that design submittals are in compliance with the contract requirements.

1.5.2 Government Approving Authority

The Contracting Officer is the approving authority for design submittals.

1.5.3 Designer of Record Certifying Authority

The Designer of Record (DOR), as registered and defined in UFC 1-300-09N, is the design certifying authority. The DOR accepts responsibility for design of work in each respective design discipline, by stamping and approving final construction drawings submitted to the Government approval authority.

1.5.4 Contractor Construction Actions

Upon submission of sealed and signed design documents certified by the DOR, the Design Quality Control (DQC) and the Quality Control (QC) Managers, the Contractor may proceed with material and equipment purchases, fabrication and construction of any elements covered by that submittal, except as specified in the following paragraph.

1.5.5 Contractor's Responsibilities

- a. With the Designer or Record, verify site information provided in the RFP. In addition, provide additional field investigations and verification of existing site conditions as may be required to support the development of design and construction of the project.
- b. Indicate on the transmittal form accompanying submittal which design submittals are being submitted as shop drawings.
- c. Advise Contracting Officer of variations, as required by paragraph "Variations."
- d. Provide an updated, cumulative submittal register with each design package that identifies the design and construction submittals required by that design package and previous submittals.

1.5.6 QC Organization Responsibilities

- a. Both the DQC and the QC Manager must certify design submittals for compliance with the contract documents. The DOR stamp on drawings indicates approval from the DOR.
- b. QC organization shall certify submittals forwarded by the Designer of Record (DOR) to the Contracting Officer with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with Contract Number (insert contract number here), is in compliance with the contract documents, and is submitted for Government approval.

Certified by Design Quality Control Manager _____,
Date _____

Certified by QC Manager _____,
Date _____"

- c. Sign certifying statement. The persons signing certifying statements shall be the QC organization members designated in the approved QC plan. The signatures shall be in original ink. Stamped signatures are not acceptable.
- d. Update submittal register as submittal actions occur and maintain the submittal register at project site until final approval of all work by Contracting Officer.
- e. Retain a copy of approved submittals at project site.

1.5.7 Government Responsibilities

The Government will

- a. Note date on which submittal was received from QC manager, on each submittal.
- b. Perform a quality assurance (QA) review of submittals. Government will notify Contractor when comments for that design package are posted and ready for Contractor evaluation and resolution.
- c. Upon submittal of final design package and resolution of comments by the Contractor, the Government will sign final design package, when approved, and return electronic copy of signed design documents to the Contractor.

1.5.7.1 Actions Possible

Submittals will be returned with one of the following notations:

- a. Submittals may be marked "approved."
- b. Submittals marked "not reviewed" will indicate submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and certified by Contractor, or is not complete. Submittal 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.
- c. Submittals marked "revise and resubmit" or "disapproved" indicate submittal is incomplete or does not comply with design concept or requirements of the contract documents and shall be resubmitted with appropriate changes. If work has been started on the unacceptable portion of the design submittal, the Contractor shall propose corrective action. No further work shall proceed until the issue is resolved in a manner satisfactory to the Government.

1.6 DESIGN DRAWINGS

1.6.1 Shop Drawings Used as Design Drawings

Design drawings may be prepared more like shop drawings to minimize construction submittals after final designs are approved. Therefore, the Contractor is encouraged to prepare and submit with the design drawings, appropriate connection, fabrication, layout, and product specific drawings.

1.6.2 Drawing Format For Shop Drawings Used as Design Drawings

The Contractor-originated drawings will be used as the basis for the record drawings. Shop drawings included as design documents shall comply with the same drawing requirements such as drawing form, sheet size, layering, lettering, and title block used in design drawings.

1.6.3 Identification of Shop Drawings Used as Design Drawings

The Contractor's transmittal letter and submittal register shall indicate which shop drawings are being submitted as design drawings.

1.6.4 Drawing Standards

Prepare, organize, and present design drawings in accordance with the requirements of UFC 1-300-09N.

Submit all CADD files for the final drawings on CD-ROM disks in AutoCAD 2007 format. Drawing files shall be full files, uncompressed and unzipped.

1.6.5 Naval Facilities (NAVFAC) Engineering Command Drawing Numbers

Number the final Contractor-originated design drawings consecutively with NAVFAC drawing numbers. Determine the total number of sheets required for the complete set of drawings before requesting the NAVFAC drawing numbers from the Contracting Officer.

1.6.6 Seal on Documents

All final Contractor-originated design drawings shall be signed, dated, and bear the seal of the registered architect or the registered engineer of the respective discipline in accordance with UFC 1-300-09N. This seal shall be the seal of the Designer of Record for that drawing, and who is professionally registered for work in that discipline. A principal or authorized licensed or certified employee shall electronically sign and date final drawings and cover sheet, in accordance with UFC 1-300-09N. Application of the electronic seal and signature accepts responsibility for the work shown thereon.

1.6.7 Units of Measure

Utilize English Inch-Pound units of measure on the design documents.

1.7 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. The specified products, equipment, fixtures, devices, and systems submitted by the Contractor and approved by the Contracting Officer shall be used to construct the project. Prescriptive Technical Sections contained in Part 5 of this RFP shall become a part of the Contractor-originated specification without any changes and as provided in the RFP.

1.7.1 Specifications Format

Unless the use of a UFGS section is required, the Contractor may prepare design specifications that include manufacturer specific data and catalog cuts in lieu of prescriptive specifications. Organize the specifications using Construction Specification Institute (CSI) Masterformat™. A prescriptive specification is required for all items for which the Contractor has not made final materials and equipment choices. Provide specifications to include the following:

- a. Cover sheet and table of contents.
- b. Specification sections.
- c. Manufacturer's Product Data.

1.7.2 Fire Protection Specifications

Specifications pertaining to spray-applied fire proofing and fire stopping, exterior fire alarm reporting systems, interior fire alarm and detection systems, and fire suppression systems, including fire pumps and standpipe systems shall be either prepared by, or reviewed and approved by the Fire Protection DOR.

1.7.3 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 RFP.

1.7.4 Submittal Register

Submit a current submittal register with each design submittal. Provide a cumulative register that identifies the design and construction submittals required by each design package along with previous submittals. The DOR shall assist in developing the submittal register by determining which submittal items are required to be approved by the DOR. To obtain Government approval of the final design package, complete all fields in the submittal register.

1.7.5 Specification Software

Submit the final specification source files in either MS Word or SpecsIntact.

1.8 DESIGN ANALYSIS

Prepare, organize, and present design analysis in accordance with the requirements of **UFC 1-300-09N**. The design analysis shall be a presentation of facts at the Concept Design Workshop to demonstrate the concept of the project is fully understood and the design is based on sound engineering principles. Provide design analyses for each discipline and include the following:

- a. Basis of design that includes:
 - (1) An introductory description of the project concepts that addresses the salient points of the design;
 - (2) An orderly and comprehensive documentation of criteria and rationale for system selection; and

(3) The identification of any necessary licenses and permits that are anticipated to be required as a part of the design and/or construction process. The "Permits Record of Decision" (PROD) form provided shall be used for recording permits.

b. Code and criteria search shall identify all applicable codes and criteria and highlight specific requirements within these codes and criteria for critical issues in the facility design.

c. Calculations as specified and as needed to support this design.

d. Section titled "**Sustainable Design**" that addresses sustainable concepts and LEED Rating Analysis Report prepared by a LEED Accredited Professional recognized by the U.S. Green Building Council.

e. Section titled "Antiterrorism" that documents the antiterrorism features.

1.8.1 Basis of Design Format

The basis of design for each design discipline shall include a cover page indicating the project title and locations, contract number, table of contents, tabbed separations for quick reference, and bound in separate volumes for each design discipline.

1.8.2 Design Calculations

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

1.8.3 Sustainable Design

Integrate sustainable strategies and features into the design to minimize the energy consumption of the facilities; conserve resources; minimize adverse effects to the environment; and improve occupant productivity, health, and comfort to reduce the total cost ownership of the project using a whole building, life cycle approach. In accordance with the Engineering & Construction Bulletin 2008-1 and other directives, the facility and all site features shall be designed and constructed using USGBC-NC.

The USGBC LEED-NC credits and additional sustainable requirements in Part Three, 2.3.1 Sustainable Design are mandatory unless not applicable due to project scope. The design and construction shall incorporate sustainable design strategies and features to the fullest extent possible, consistent with mission, budget and client requirements. Ensure sustainable strategies and features in the design phase are incorporated in the construction phase.

Information and resources on sustainable design principles and guidelines are explained in the "Whole Building Design Guide" that can be found at www.wbdg.org.

1.8.3.1 Not Used

1.8.3.2 Sustainable Validation

Provide a design that incorporates sustainable techniques and materials to the greatest extent possible and to meet as many points applicable to the project and monetarily feasible. Provide an analysis of the USGBC LEED-NC criteria as it applies to the design of this project and include updated information with each design submittal.

a. Provide the following information for the Basis of Design:

(1) A completed USGBC LEED-NC Project Checklist indicating all LEED Prerequisites and Credits that are applicable to the project and the total anticipated score.

(2) Description of how each applicable LEED Prerequisite and Credit and other sustainable features and strategies will be achieved.

(3) Identify the Design Team's LEED Accredited Professional responsible for coordinating the sustainable requirements of the project.

b. For the submission specified, provide the following:

(1) At 100% Design submittal, provide a USGBC LEED-NC Project Checklist and preliminary LEED documentation, in the form of a three-ring binder, of all LEED Prerequisites and Credits to be obtained as required by the USGBC LEED-NC Rating System. Substitute forms other than those required by the USGBC are acceptable.

(2) At final design submittal, update the USGBC LEED-NC Project Checklist and the LEED documentation binder with any changes and include an electronic copy of the LEED documentation. The project LEED Accredited Professional shall sign a statement validating that the LEED prerequisites and credits achieved by the project provide an accurate estimate of the rating the USGBC would assign to the project.

1.8.3.3 EPA Designated Products

Use products that meet or exceed the minimum requirements of this RFP and the EPA guideline standards for recovered content to the maximum practicable extent in the performance of the contract. See www.epa.gov/cpg/products.htm for a list of EPA designated products and a list of manufacturers and suppliers of EPA designated products.

1.9 NOT USED

1.10 NOT USED

1.11 RECORD DOCUMENTS

1.11.1 Record Drawings

The as-built modifications shall be accomplished by electronic drafting methods on the Contractor-originated .DWG design drawings to create a complete set of record drawings. In addition to the requirements of FAC 5252.236-9310, RECORD DRAWINGS, survey the horizontal and vertical location of all provided underground utilities to within 0.1 feet relative to the station datum. All pipe utilities shall be surveyed at each fitting and every 100 LF of run length. Electrical and communication ductbank, direct buried conduit, and direct buried conductor shall be surveyed every 100 LF and at each change of direction. Record locations and elevations on the Record Drawings.

a. For each record drawing, provide CADD drawing identical to signed Contractor-originated.PDF drawings, that incorporates modifications to the as-built conditions. In addition, copy initials and dates from the Contracting Officer approved .PDF documents to the title block of the record CADD.DWG drawings. The RFP reference or definitive drawings are not required for inclusion in the record set of drawings.

b. After all as-built conditions are recorded on the CADD.DWG files, produce a PDF file of each individual record drawing in conformance with [UFC 1-300-09N](#). Electronic signatures are not required on record drawings.

1.11.2 Source Documents

Provide the specifications, design analysis, reports, surveys, calculations, and any other contracted documents on the CD-ROM disk with the record drawings.

PART 2 PRODUCTS

2.1 CONSOLIDATED RFP DOCUMENTS

Within four weeks after contract award, provide three electronic and hard copies of consolidated RFP documents incorporating the Contractor's Proposal and all RFP amendments and revisions that are contained in the contract award. Identify the changes to the RFP with the "Red-lining" or "Track Changes" feature of SpecsIntact or MS Word to highlight the pre-award modifications to the contract. Identify the amendment source at each addition and deletion by annotation, such as footnote or reference in parenthesis.

2.2 DESIGN SUBMITTALS

Complete the Contractor-originated design submittals as defined by this contract, and coordinate with the approved design network analysis schedule.

2.2.1 Design Submittal Packages

The Government prefers to review for Quality Assurance (QA) as few submittal packages as possible. Site and Building Design Submittal Packages are required, however Critical Path Design Submittals are acceptable if they are substantiated as having an impact to the critical path in the Government approved Network Analysis Schedule. A Critical Path submittal shall include all design analyses, drawings, specifications and product data required to fully describe the project element for Government review.

Examples of project elements that may be submitted as Critical Path Design Submittal Packages are: Master Plan Design, Demolition Design, Foundation Design, Structural Design, Building Enclosure Design, Remaining Work Design, Furniture/Equipment Design, long lead items, or any other construction activity or project element that can be organized into a submittal package that can be reviewed and approved by the Government without being contingent upon subsequent design submittals.

2.2.1.1 Site Design

The Site Design typically includes the following components:

- a. Site work
- b. Geotechnical

2.2.1.2 Building Design

The Building Design typically includes the following components:

- a. Foundation
- b. Structural
- c. Building Enclosures
- d. Remaining Work
- e. Furniture/Equipment

2.2.2 Required Design Submittals

Provide the following Design Submittal packages. Provide comprehensive, multi-discipline design packages that include design documentation for project elements, fully developed to the design stage indicated, and in accordance with UFC 1-300-09N, except where specified otherwise.

- a. Concept Design presented at Concept Design Workshop
- b. Design Development in-progress - Government Progress QA. 21 calendar day Government review time.
- c. Prefinal (100%) Design - Government Progress QA. 21 calendar day Government review time.

- d. Final Design - Government QA.

2.2.3 Critical Path Design Submittals

Provide Critical Path Design Submittals that include design documents for the project elements involved. Include and provide full documentation that would normally have been provided in earlier submittal stages, such as Design Development Phase.

- a. Final Design - Government QA

2.2.4 Review Copies of Design Submittal Packages

a. Provide copies of each design submittal package for review to the following reviewers. Addresses for mailing will be furnished at the PAK meeting.

- (1) 3 copies to the NAVFAC component.
- (2) 3 copies to the ROICC Stennis.
- (3) 3 copies to the Activity claimant (NDBC).
- (4) 3 copies to the NASA Projects Office, Stennis Space Center.

Activity claimant copies shall be delivered to the NASA Projects Office, Stennis Space Center.

b. Provide the same quantities of copies for resubmittals, as required for each design submittal.

2.3 IDENTIFICATION OF DESIGN SUBMITTALS

Provide a title sheet to clearly identify each submittal, the completion status, and the date. The title sheet shall use the standard format indicated in the [UFC 1-300-09N](#) for title sheets. The title sheet shall be unique to a particular design submittal. Submit the project title sheet with design status and date for the design submittals.

2.3.1 Critical Path Submittal Title Sheet

Identify Critical Path submittals as such, and include a title sheet indicating the type of critical path submittal, the status, and the date.

PART 3 EXECUTION

3.1 CONTRACTOR'S RESOLUTION OF COMMENTS

Provide written responses to all written comments by the Government. Resubmittal of an unacceptable design submittal shall be a complete package that includes all the required, specified components of that design submittal. When required by the Government, Contractor

resubmittal of design package, due to nonconformance to the contract, is not a delay in the contract.

3.2 VARIATIONS

Variations from contract requirements require Government approval and will be considered where advantageous to the Government. The Designer of Record must approve any proposed variation prior to submittal to the Government.

3.3 THE CONTRACT AND ORDER OF PRECEDENCE

3.3.1 Contract Components

The contract consists of the solicitation, the approved proposal, and the final design.

3.3.2 Order of Precedence

NFAS Clause 5252.236-9312. In the event of conflict or inconsistency between any of the below described portions of the conformed contract, precedence shall be given in the following order:

a. Any portions of the proposal or final design that exceed the requirements of the solicitation.

- (1) Any portion of the proposal that exceeds the final design.
- (2) Any portion of the final design that exceeds the proposal.
- (3) Where portions within either the proposal or the final design conflict, the portion that most exceeds the requirements of the solicitation has precedence.

b. The requirements of the solicitation, in descending order of precedence:

- (1) Standard Form 1442, Price Schedule, and Davis Bacon Wage Rates.
- (2) Part 1 - Contract Clauses.
- (3) Part 2 - General Requirements.
- (4) Part 3 - Project Program Requirements.
- (5) Part 6 - Attachments (excluding Concept Drawings).
- (6) Part 5 - Prescriptive Specifications exclusive of performance specifications.
- (7) Part 4 - Performance Specifications exclusive of prescriptive specifications.
- (8) Part 6 - Attachments (Concept Drawings).

3.3.2.1 Government Review or Approval

NDBC Renovation & Expansion
Stennis Space Center, MS

Government review or approval of any portion of the proposal or final design shall not relieve the Contractor from responsibility for errors or omissions with respect thereto.

-- End of Section --

SECTION 01 35 29.05 20

SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS FOR DESIGN-BUILD
11/07

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 NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.32 (2004) Fall Protection systems for
Construction and Demolition Operations

ANSI Z359.1 (1992)(R1999) Safety Requirements for
Personal Fall Arrest System, Subsystems
and Components

ASME INTERNATIONAL (ASME)

ASME B30.3 (2004) Construction Tower Cranes

ASME B30.5 (2004) Mobile and Locomotive Cranes

ASME B30.8 (2004) Floating Cranes and Floating Derricks

ASME B30.22 (2005) Articulating Boom Cranes

ASTM INTERNATIONAL (ASTM)

ASTM F855 (2004) Standard Specifications for Temporary
Protective Grounds to be used on De-energized
Electrical Power Lines and Equipment

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 1045 (1992; R2002) Standard for Software
Productivity Metrics - IEEE Computer Society
Document

DEPARTMENT OF DEFENSE (DoD)

MIL-STD-1472F (1999) Military Standard, Human Engineering
Design Criteria for Military Systems,
Equipment and Facilities

DoD-HDBK 743A (1991) Anthropometry of US Military Personnel

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 241	(2000) Safeguarding Construction, Alteration, and Demolition Operations
NFPA 51B	(2003) Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70	(2005) National Electrical Code
NFPA 70E	(2004) Electrical Safety in the Workplace

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) Safety -- Safety and Health Requirements
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U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.	Occupational Safety and Health Standards
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1915	Occupational Safety and Health Standards for Shipyard Employment
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926 Subpart M	Fall Protection

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES and Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Accident Prevention Plan; G

Activity Hazard Analysis; G

Crane Critical Lift Plan;G

SD-06 Test Reports

Reports

Accident Reports

Monthly Work-Hour Reports

Submit reports as their incidence occurs, in accordance with the requirements of paragraph, REPORTS.

SD-07 Certificates

Contractor Safety Self-Evaluation Checklist;G (Obtain copy from Contracting Officer)

Submit one copy of each permit/certificate attached to each Daily Production Report.

1.3 DEFINITIONS

Weight Handling Equipment (WHE) Accident. A WHE accident occurs when any one or more of the six elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; and/or collision, including unplanned contact between the load, crane, and/or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.).

1.4 CONTRACTOR SAFETY SELF-EVALUATION CHECKLIST

Contracting Officer will provide a "Contractor Safety Self-Evaluation checklist" to the Contractor at the pre-construction conference. The checklist will be completed monthly by the Contractor and submitted with each request for payment voucher. An acceptable score of 90 or greater is required. Failure to submit the completed safety self-evaluation checklist or achieve a score of at least 90, will result in a retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

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

1.6 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Site Safety and Health Officer (SSHO) shall perform safety and occupational health management, surveillance, inspections, and safety enforcement for the

Contractor. The assignment of the SSHO contractually does not relieve the Contractor from the regulatory requirements governing safety responsibility. The Contractor Quality Control (QC) person cannot be the SSHO on this project, even though the QC has safety inspection responsibilities as part of the QC duties. The SSHO shall meet the following requirements:

Level 4:

A minimum of 10 years safety work of a progressive nature with at least 5 years of experience on similar projects.

30-hour OSHA construction safety class or equivalent within the last 5 years.

An average of at least 24 hours of formal safety training each year for the past 5 years with training for competent person status for

at least the following areas of competency: Excavation; Scaffolding; Fall protection; Hazardous energy; Health hazard recognition, evaluation and control of chemical, physical and biological agents; Personal protective equipment and clothing to include selection, use and maintenance.

The SSHO have no other duties other than site safety and health officer.

1.6.2 Personnel Duties

1.6.2.1 Site Safety and Health Officer (SSHO)

In addition to duties required in EM 385-1-1, perform the following duties:

a. Conduct daily safety and health inspections and maintain a written deficiency tracking log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Safety inspection logs shall be attached to the Contractors' daily production report and posted at the jobsite.

b. Attend the pre-construction meeting, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.

Failure to actively apply an acceptable safety program will result in dismissal of the superintendent and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

1.6.2.2 Pre-design Submittals

Prior to start of design, provide the following submittals based on the requirements of the U.S. Army Corps of Engineers Safety & Health Manual EM 385-1-1, using the latest version. Provide a description of the safety controls for design investigations and field work. No field work allowed until submittals are accepted by the Contracting Officer.

a. Accident Prevention Plan (APP)

Follow the format included in Appendix A of EM 385-1-1.

b. Activity Hazard Analysis (AHA)

Use format indicated in Section 01.A.3, Figure 1-2 of EM 385-1-1.

1.7 REPORTS

1.7.1 Accident Reports

a. For recordable injuries and illnesses, and property damage accidents resulting in at least \$2,000 in damages, the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the Navy Contractor Significant Incident Report (CSIR) form and provide the report to the Contracting Officer within 5 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

b. For any weight handling equipment accident (including rigging gear accidents) the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the WHE Accident Report (Crane and Rigging Gear) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Crane operations shall not proceed until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer. The Contracting Officer will provide a blank copy of the accident report form.

1.7.2 Accident Notification

Notify the Contracting Officer as soon as practical, but not later than four hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$2,000, or any weight handling equipment accident. Information shall 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 (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted.

1.7.3 Monthly Work-Hour Reports

Monthly work-hour reporting to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor. The Contracting Officer will provide copies of any special forms.

1.8 HOT WORK

Prior to performing "Hot Work" (welding, cutting, etc.) or operating other flame-producing/spark producing devices, a written permit shall be requested from the Stennis Space Center Fire Chief. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. It is mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch shall be trained in accordance with NFPA 51B and remain on-site for a minimum of 30 minutes after completion of the task or as specified on the hot work permit.

PART 2 PRODUCTS

2.1 CONFINED SPACE SIGNAGE

The Contractor shall provide permanent signs integral to or securely attached to access covers for permit-required confined spaces provided by this contract. Signs wording: "DANGER--PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER -" in bold letters a minimum of one inch in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" shall be red and readable from 5 feet.

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

The Contractor shall comply with USACE EM 385-1-1, NFPA 241, the APP, the AHA, Federal and/or State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard shall prevail.

3.1.1 Hazardous Material Use

Each hazardous material must receive approval prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of 10 working days for processing of the request for use of a hazardous material.

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 USACE 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 are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials.

3.1.3 Unforeseen Hazardous Material

The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos. If additional material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the 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 pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

3.2 PRE-OUTAGE COORDINATION MEETING

Contractors are required to apply for utility outages at least 15 days in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, the Contractor shall attend a pre-outage coordination meeting with the Contracting Officer to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

3.3 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

The Contractor shall establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. The program shall include company policy, identify 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 29 CFR 1926 Subpart M.

3.3.1 Fall Protection for Roofing Work

Fall protection controls shall be implemented based on the type of roof being constructed and work being performed. The roof area to be accessed shall be evaluated for its structural integrity including weight-bearing capabilities for the projected loading.

- a. Low Sloped Roofs: A safety monitoring system by itself is not adequate fall protection and is not authorized.
- b. Steep-Sloped Roofs: Work on steep-sloped roofs requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also includes residential or housing type construction.

3.3.2 Fall Prevention during Design Phase

During design phase the Contractor shall consider and eliminate fall hazards encountered at the facility, building, crane, structure, etc. during maintenance evolutions, whenever possible. If it is not feasible to eliminate or prevent the need to work at heights with its subsequent exposure to fall hazards, control measures should be included in the design to protect personnel conducting maintenance work after completion of the project. In addition to the detailed requirements included in the provisions of this contract, the design work shall incorporate the requirements of 29 CFR 1910 Standards.

3.4 NOT USED

3.5 EQUIPMENT

3.5.1 Weight Handling Equipment

- a. **Crane Critical Lift Plan:** Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving

more than one crane or hoist; lifts of personnel; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. The plan shall be submitted 15 calendar days prior to on-site work and include the requirements of USACE EM 385-1-1, paragraph 16.C.18. and the following:

(1) For lifts of personnel, the plan shall demonstrate compliance with the requirements of 29 CFR 1926.550(g).

(2) For barge mounted mobile cranes, barge stability calculations identifying barge list and trim based on anticipated loading; and load charts based on calculated list and trim. The amount of list and trim shall be within the crane manufacturer's requirements.

b. Certificate of Compliance: The Contractor shall provide a Certificate of Compliance for each crane entering an activity under this contract (see Contracting Officer for a blank certificate). Certificate shall state that the crane and rigging gear meet applicable OSHA regulations (with the Contractor citing which OSHA regulations are applicable, e.g., cranes used in construction, demolition, or maintenance shall comply with 29 CFR 1926 and USACE EM 385-1-1 section 16 and Appendix H. Certify on the Certificate of Compliance that the crane operator(s) is qualified and trained in the operation of the crane to be used. The Contractor shall also certify that all of its crane operators working on the DOD activity have been trained in the proper use of all safety devices (e.g., anti-two block devices). These certifications shall be posted on the crane.

c. The Contractor shall notify the Contracting Officer 15 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. Contractor's operator shall remain with the crane during the spot check.

d. The Contractor shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection shall be performed under the supervision of a designated person (as defined in ASME B30.5). All testing shall be performed in accordance with the manufacturer's recommended procedures.

e. The Contractor shall comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, and ASME B30.8 for floating cranes and floating derricks.

f. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.

g. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and shall follow the requirements of USACE EM 385-1-1 section 11 and ASME B30.5 or ASME B30.22 as applicable.

h. The Contractor shall use cribbing when performing lifts on outriggers.

- i. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- j. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.
- k. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.
- l. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).
- m. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. Prior to conducting lifting operations the contractor shall set a maximum wind speed at which a crane can be safely operated based on the equipment being used, the load being lifted, experience of operators and riggers, and hazards on the work site. This maximum wind speed determination shall be included as part of the activity hazard analysis plan for that operation.

3.6 EXCAVATIONS

3.6.1 Utility Locations

Prior to digging, the appropriate digging permit must be obtained. All underground utilities in the work area must be positively identified by a private utility locating service in addition to any station locating service and coordinated with the station utility department. Any markings made during the utility investigation must be maintained throughout the contract. Locate utilities in accordance with Section 01 14 00.05 20 WORK RESTRICTIONS FOR DESIGN-BUILD

3.6.2 Utility Location Verification

The Contractor must physically verify underground utility locations by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system. Digging within 2 feet of a known utility must not be performed by means of mechanical equipment; hand digging shall be used. If construction is parallel to an existing utility the utility shall be exposed by hand digging every 100 feet if parallel within 5 feet of the excavation.

3.7 UTILITIES WITHIN CONCRETE SLABS

Utilities located within concrete slabs or pier structures, bridges, and the like, are extremely difficult to identify due to the reinforcing steel used in the construction of these structures. Whenever contract work involves concrete chipping, saw cutting, or core drilling, the existing utility location must be coordinated with station utility departments in addition to a private locating service. Outages to isolate utility systems shall be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the contractor from meeting this requirement.

3.8 ELECTRICAL

3.8.1 Conduct of Electrical Work

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. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the Contracting Officer and Station Utilities for identification. The Contracting Officer will not accept an outage request until the Contractor satisfactorily documents that the circuits have been clearly identified. Attachment of temporary grounds shall be 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 will be 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 shall be permitted to enter. When work requires Contractor to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. In addition, provide electrical arc flash protection for personnel as required by 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.

3.9 WORK IN CONFINED SPACES

In addition to the requirements of Section 06.I of USACE EM 385-1-1, OSHA 29 CFR 1910.146 and OSHA 29 CFR 1926.21(b)(6) the Contractor shall comply with the following. Any potential for a hazard in the confined space requires a permit system to be used.

- a. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. (See Section 06.I.06 of USACE EM 385-1-1 for entry procedures.) All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.
- b. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.
- c. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

3.10 ERGONOMICS CONSIDERATIONS DURING DESIGN PHASE

NDBC Renovation & Expansion
Stennis Space Center, MS

Facilities, processes, job tasks, tools and materials shall be designed to reduce or eliminate work-related musculoskeletal (WMSD) injuries and risk factors in the workplace. Designs shall ensure facility maintenance access is designed to reduce WMSD risk factors to the lowest level possible. In addition to the detailed requirements included in the provisions of this contract, the design work shall incorporate the requirements of MIL-STD-1472F.

-- End of Section --

SECTION 01 45 00.05 20

DESIGN AND CONSTRUCTION QUALITY CONTROL
11/07

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 E 329 (2002) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2003) Safety -- Safety and Health Requirements

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES and Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Design Quality Control (DQC) Plan; G

Submit a DQC Plan prior to the Post Award Kickoff Meeting.

Construction Quality Control (CQC) Plan; G

Submit a Construction QC Plan prior to start of construction.

SD-07 Certificates

Preliminary Inspections and Final Acceptance Testing; G

Final Life Safety/Fire Protection Certification; G

IBC Special Inspections Certification; G

SD-11 Closeout Submittals

Training Course Outline; G

Training Video Recording; G

1.3 QC PROGRAM REQUIREMENTS

Establish and maintain a QC program that is administered by a Design and Construction Quality Control organization, using Quality Control (Design and Construction) Plans, meetings, a Coordination and Mutual Understanding Meeting, three phases of control, submittal review and approval, testing, completion inspections, and QC certifications and documentation necessary to provide design, materials, equipment, workmanship, fabrication, construction and operations which comply with the requirements of this Contract. The QC program shall cover on-site and off-site work. No construction work or testing may be performed unless the QC Manager is on the work site.

1.3.1 Design and Construction Quality Control Plans

The Contractor shall provide a project specific **Design Quality Control (DQC) Plan** and **Construction Quality Control (CQC) Plan**, for review and approval by the Government. The Contractor shall perform no design until the DQC Plan is approved and no construction until the CQC Plan is approved. The Contractor's plan shall include the following:

- a. The QC organization for this contract, including member resumes.
- b. A letter from an officer of the company designating the QC Manager, Alternate QC Manager, and DQC Manager, and their authority.
- c. QC Manager qualifications.
- d. DQC Manager qualifications.
- e. List of Definable Features of Work (DFOW) including list of design submittal packaging. DFOW is a task that is separate and distinct from other tasks and has control requirements and work crews unique to the task.
- f. For the QC Plan, a plan to implement the "Three Phases of Control" for each DFOW.
- g. For the QC Plan, a testing Plan, log and list of personnel and accredited laboratories that will perform tests. Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation with the testing plan.
- h. Submittal Log including design submittals, listing personnel who will review submittals and noting submittals for Government review.
- i. Procedures for submitting and reviewing variations prior to submission to the Government.
- j. As a part of the Contractor's plan, a statement of Special Inspections shall be prepared by the Designer of Record (DOR) describing a complete list of materials and work requiring special inspections, the inspections to be performed and any applicable quality assurance plans and structural observations. The Contractor's plan shall for implement the applicable requirements of the International

Building Code (IBC), Chapter 17 "Structural Tests and Special Inspections." The plan shall include a listing of the individuals, approved agencies or firms that will be retained for conducting the required special inspections accompanied by a description of individual inspector's experience and a copy of all required certifications. Structural tests and special inspections, as outlined in Chapter 17 of the IBC, shall be conducted by individuals and agents that are under the direct supervision of a Registered Design Professional (RDP) and meet the requirements of [ASTM E 329](#).

k. A plan for assuring the proper design, construction, installation of all life safety and fire protection features across all disciplines and trades. Examples of life safety and fire protection features include, but are not limited to, water distribution systems including fire pumps and fire hydrants, fire resistive assemblies such as fire rated walls/partitions and spray-applied fire proofing of structural components, fire alarm and detection systems, fire suppression and standpipe systems, means of egress components, emergency and exit lighting fixtures. As a part of the plan, a statement of Special Inspections shall be prepared by the Fire Protection Engineer Designer of Record (DOR) describing a complete list of materials and work requiring special inspections, the inspections to be performed and any applicable quality assurance plans and fire protection observations. The plan will include a listing of the individuals, approved agencies or firms that will be retained for conducting the required special inspections accompanied by a description of individual inspector's experience and a copy of all required certifications.

l. For the DQC plan, submit a formal Communication Plan the indicates the frequency of design meetings and what information is covered in those meetings, key design decision points tied to the Network Analysis Scheduled and how the DOR plans to include the Government in those decisions, peer review procedures, interdisciplinary coordination, design review procedures, comment resolution, etc.

The Communication Plan will emphasize key decisions and possible problems the Contractor and Government may encounter during the design phase of the project. Provide a plan to discuss design alternatives and design coordination with the stakeholders at the key decision points as they arise on the project. Identify individual stakeholders and suggested communication methods that will be employed to expedite and facilitate each anticipated critical decision. Communication methods may include: Concept Design Workshop, over-the-shoulder review meetings, presentation at client's office, lifecycle cost analysis presentation, technical phone conversation, and formal review meeting. The design portion of the Communication Plan must to be written by the DQC and confirmed during the Post Award Kick off Partnering. Update the Communication Plan at every Partnering meeting.

m. For the DQC Plan, procedures for insuring the design documents are submitted in accordance with UFC 1-300-09N, *Design Procedures* and other procedures to ensure disciplines have been properly coordinated to eliminate conflicts.

n. For the DQC Plan, a list of design subcontractors and the scope of the work which each firm will accomplish.

1.4 QC ORGANIZATION

The QC Manager shall report to an officer of the firm and shall not be subordinate to the Project Superintendent or the Project Manager.

1.4.1 QC and Alternative QC Manager

QC and Alternative QC Manager qualifications:

- a. Complete the course entitled "Construction Quality Management (CQM) for Contractors." and shall maintain a current certificate.
- b. Five years of combined experience as a Superintendent, QC Manager, Project Manager, or Project Engineer on similar size and type construction contracts, and at least two years experience as a QC Manager.
- c. Familiar with requirements of USACE EM 385-1-1, and experience in the areas of hazard identification and safety compliance.

QC and Alternative QC Manager responsibilities:

- a. Participate in the Post Award Kick-off, Partnering, Preconstruction, Design Development, and Coordination and Mutual Understanding Meetings.
- b. Implement the "Three Phase of Control" plan for each DFOW and notify the Contracting Officer at least 3 business days in advance of each Preparatory and Initial Phase meeting. Submit respective checklists to the Contracting Officer the next business day.
- c. Ensure that no construction begins before the DOR has finalized the design for that segment of work, and construction submittals are approved as required.
- d. Inspect all work and rework, using International Conference of Building Officials certified QC specialists as applicable, to ensure its compliance with contract requirements. Maintain a rework log.
- e. Immediately stop any segment of work, which does not comply with the contract and plans and specifications, and direct the removal and replacement of any defective work.
- f. Remove any individual from the site who fails to perform their work in a skillful, safe and workmanlike manner or whose work does not comply with the contract plans and specifications.
- g. Prepare daily QC Reports.
- h. Ensure that Contractor Production Reports are prepared daily.
- i. Hold weekly QC meetings with the DQC, DOR (or representative), Superintendent and the Contracting Officer; participation shall be suitable for the phase of work. Distribute minutes of these meetings.

- j. Ensure that design and construction submittals are reviewed and approved, as required by the contract, prior to allowing material on site and work to proceed with these items. Maintain a submittal log.
- k. Update As-built drawings daily, maintaining up-to-date set on site.
- l. Maintain a testing plan and log. Ensure that all testing is performed in accordance with the contract. Review all test reports and notify the Contracting Officer of all deficiencies, along with a proposal for corrective action.
- m. Maintain rework log on site, noting dates deficiency identified, and date corrected.
- n. Certify and sign statement on each invoice that all work to be paid under the invoice has been completed in accordance with contract requirements.
- o. Perform Punch-out and participate in Pre-final and Final Inspections. Submit list of deficiencies to the Contracting Officer for each inspection. Correct all deficiencies prior to the Final inspection. Notify Contracting Officer prior to final inspection to establish a schedule date acceptable by the Contracting Officer.
- p. Ensure that all required keys, operation and maintenance manuals, warranty certificates, and the As-built drawings are correct and complete, in accordance with the contract, and submitted to the Contracting Officer.
- q. Assure that all applicable tests, special inspections, and observations required by the contract are performed.
- r. Coordinate all factory and on-site testing, Testing Laboratory personnel, QC Specialists, and any other inspection and testing personnel required by this Contract.
- s. Notify the Contracting Officer of any proposed changes to the QC plan.
- t. Retain a copy of approved submittals at project site, including Contractor's copy of approved samples.
- u. Update the Performance Assessment Plan as described in the UFGS section 01 31 19.05 20, Post Award Meetings and discuss monthly at a QC meeting.

1.4.2 DQC and Alternative DQC Manager

DQC and Alternative DQC Manager qualifications:

- a. A minimum of 5 years experience as a design Architect or Engineer on similar size and type designs /or design-build contracts. Provide education, experience, and management capabilities on similar size and type contracts.

- b. Be a registered professional engineer or architect with active registration in the State in which the project will be constructed. Provide proof of registration as part of the resume submittal package.

DQC and Alternative DQC Manager responsibilities:

- a. Be responsible for the design integrity, professional design standards, and all design services required.
- b. Be a member of the Designer of Record's (DOR) firm.
- c. Be responsible for development of the design portion of the QC Plan, incorporation and maintenance of the approved Design Schedule, and the preparation of DQC Reports and minutes of all design meetings.
- d. Participate in the Post Award Kick-Off, all design planning meetings, design presentations, partnering, and QC meetings.
- e. Implement the DQC plan and shall remain on staff and involved with the project until completion of the project.
- f. Be cognizant of and assure that all design documents on the project have been developed in accordance with the Contract, and have been properly coordinated.
- g. Develop the submittal register. Coordinate with each DOR to determine what items need to be submitted, and who needs to approve.
- h. Coordinate all training issues and validate that the testing and training requirements of this contract are accomplished.
- i. Provide QC certification for design compliance.
- j. Certify and sign statement on each invoice that all work to be paid to the DOR under the invoice has been completed in accordance with the contract requirements.
- k. Prepare weekly DQC Reports that documents the work the design team accomplished that week.

1.4.3 QC Specialists

QC Specialists shall assist and report to the QC Manager and may perform production related duties but must be allowed sufficient time to perform their assigned quality control duties. QC Specialists are required to attend the Coordination and Mutual Understanding Meeting, QC meetings and be physically present at the construction site to perform the three phases of control and prepare documentation for each definable feature of work in their area of responsibility at the frequency specified below.

1.4.3.1 Fire Protection QC Specialist

The Fire Protection QC Specialist shall be a U.S. Registered Fire Protection Engineer (FPE) and shall be an integral part of the Prime Contractor's Quality Control Organization. This FPE shall have no business relationships (owner, partner, operating officer, distributor, salesman, or technical representative) with any fire protection equipment device manufacturers, suppliers or installers for any such equipment provided as part of this

project. The Fire Protection Designer of Record may serve as the lead Fire Protection QC Specialist, provided the following qualifications are met.

a. **Qualifications/Experience:** The FPE shall have obtained their professional registration by successfully completing the Fire Protection Engineering discipline examination. This FPE shall have a minimum of 5 years full time and exclusive experience in every aspect of facility design and construction as it relates to fire protection, which includes, but is not limited to, building code analysis, life safety code analysis, design of automatic detection and suppression systems, passive fire protection design, water supply analysis, and a multi-discipline coordination reviews, and construction surveillance.

b. **Area of Responsibility:** The FPE is responsible for assuring the proper construction and installation of life safety and fire protection features across all disciplines and trades. The FPE shall be responsible for assuring that life safety and fire protection features are provided in accordance with the design documents, approved construction submittals, and manufacturer's requirements. Examples include, but are not limited to, water distribution systems including fire pumps and fire hydrants, fire resistive assemblies such as spray-applied fire proofing of structural components and fire rated walls/partitions, fire alarm and detection systems, fire suppression and standpipe systems, emergency and exit lighting fixtures, etc.

c. **Construction Surveillance:** The FPE shall visit the construction site as necessary to ensure life safety and fire protection systems are being constructed, applied, and installed in accordance with the approved design documents, approved construction submittals, and manufacturer's requirements. Frequency and duration of the field visits are dependent upon particular system components, system complexity, and phase of construction. At a minimum, field visits shall occur just prior to installation of suspended ceiling systems to inspect the integrity of passive fire protection features and fire suppression system piping, and required performance verification testing of all life safety and fire protection systems identified below and in Part 4.

(1) **Preliminary Inspections and Final Acceptance Testing:** FPE shall personally witness all preliminary inspections of fire alarm/detection and suppression systems. Once preliminary inspections have been successfully completed, the FPE shall submit a signed certificate to the QC Manager that systems are ready for final inspection and testing. The Naval Facilities Engineering Command Fire Protection Engineer will witness formal tests and approve all systems before they are accepted. The QC Manager shall submit the request for formal inspection at least 15 days prior to the date the inspection is to take place. The QC manager shall provide 10 days advance notice to the Contracting Officer and the activity Fire Inspection Office of scheduled final inspections.

(2) **Final Life Safety/Fire Protection Certification Documentation:** The FPE shall provide certification that all life safety and fire protection systems have been inspected and, in the FPE's professional judgment, have been installed in accordance with the contract documents, approved submittals, and manufacturer's requirements. This certification shall summarize all life safety

and fire protection features, and shall bear the professional seal of the fire protection engineer.

1.4.3.2 Mechanical QC Specialist

<u>Qualification/Experience in Area of Responsibility</u>	<u>Area of Responsibility</u>	<u>Frequency</u>
Mechanical Inspector, International Conference of Building Officials (ICBO) Certified/ 5 years minimum	Installation and Testing of Boilers	Minimum 3 times a week during installation and full-time during testing
Elevator Inspector, International Conference of Building Officials (ICBO) Certified/ 5 years minimum	Testing of Elevators	Minimum 3 times a week during installation and full-time during testing
Mechanical Testing QC Specialist/Registered Mechanical Engineer, (PE)	Testing of Mechanical Systems	Full-time during testing

1.4.3.3 Soils Testing/Pile Installation and Testing QC Specialists

Provide IBC Special Inspections Certification provided by the following specialist(s):

<u>Qualification/Experience in Area of Responsibility</u>	<u>Area of Responsibility</u>	<u>Frequency</u>
Under Supervision of P.E.	Pile Installation And Testing	See IBC Chapter 17

1.5 THREE PHASES OF CONTROL

The Three Phases of Control shall adequately cover both on-site and off-site work and shall include the following for each DFOW.

1.5.1 Preparatory Phase

Notify the Contracting Officer at least two work days in advance of each preparatory phase meeting. The meeting shall be conducted by the QC Manager and attended by the Project Superintendent, QC Specialists, and the foreman responsible for the DFOW. The DQC Manager shall also attend if required by structural tests and special inspections, as outlined in Chapter 17 of the IBC and the DQC Plan. When the DFOW will be accomplished by a subcontractor, that subcontractor's foreman shall attend the preparatory phase meeting. Document the results of the preparatory phase actions in the daily Contractor Quality Control Report and in the Preparatory Phase Checklist. Perform the following prior to beginning work on each DFOW:

- a. Review each paragraph of the applicable specification sections;
- b. Review the Contract drawings;

- c. 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;
- d. Review the testing plan and ensure that provisions have been made to provide the required QC testing;
- e. Examine the work area to ensure that the required preliminary work has been completed;
- f. 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;
- g. Discuss the specific controls used in 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; and
- h. Review the APP and appropriate Activity Hazard Analysis (AHA) to ensure that applicable safety requirements are met, and that required Material Safety Data Sheets (MSDS) are submitted.

1.5.2 Initial Phase

Notify the Contracting Officer at least two work days in advance of each initial phase. When construction crews are ready to start work on a DFOW, conduct the initial phase with the Project Superintendent, QC Specialists, and the foreman responsible for that DFOW. The DQC Manager shall also attend if required by structural tests and special inspections, as outlined in Chapter 17 of the IBC and the DQC Plan. 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 Initial Phase Checklist. Repeat the initial phase for each new crew to work on-site, or when acceptable levels of specified quality are not being met. Perform the following for each DFOW:

- a. Establish the quality of workmanship required;
- b. Resolve conflicts;
- c. Ensure that testing is performed by the approved laboratory, and
- d. Check work procedures for compliance with the APP and the appropriate AHA to ensure that applicable safety requirements are met.
- e. Ensure manufacturer's representative has performed necessary inspections, if required.

1.5.3 Follow-Up Phase

Perform the following for on-going work daily, or more frequently as necessary, until the completion of each DFOW and document in the daily CQC Report:

- a. Ensure the work is in compliance with Contract requirements;

- b. Maintain the quality of workmanship required;
- c. Ensure that testing is performed by the approved laboratory; and
- d. Ensure that rework items are being corrected.

1.5.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted 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 is resumed after substantial period of inactivity, or if other problems develop.

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

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

1.6 COMPLETION INSPECTIONS

The Contractor shall perform the necessary prefinal inspections, compile punchlists, and correct deficiencies. Notify the Contracting Officer 5 calendar days prior to the date a prefinal inspection can be held. Notify the Contracting Officer at least 14 calendar days prior to the date a final acceptance inspection can be held. The Government will perform final inspection to verify that the facility is complete and ready to be occupied. All items previously identified on the prefinal punchlist will have been corrected and acceptable.

1.7 TRAINING

The DQC Manager shall provide a comprehensive project-specific Government personnel training program for the systems of the facility specified in the technical specifications of this Contract. The core of this training will be based on manufacturer's recommendations and the operation and maintenance support information (OMSI) provided as a part of this Contract. Training shall include classroom discussion as well as hands on maintenance, replacement of typical components and repair type maintenance training for parts typically replaced or repaired in the field, such as:

1. Domestic water pressure boosting system
2. Plumbing systems, including temperature actuated thermostatic water mixing valve
3. HVAC Systems, including chillers, boilers, heat pumps, air handling equipment, exhaust fans, fan coil units, hot and chilled water pumping system
4. Steam condensate pumps
5. Direct Digital Controls/Space Temperature Controls
6. Electrical systems, including transformers, diesel-electric generator sets, automatic transfer switches, primary switchgear, secondary switchgear, high-voltage switchgear, variable frequency drives, and frequency converters
7. Fire protection systems, including fire alarm systems and detection systems
8. Site mechanical utilities, including cathodic protection

9. Site electrical utilities, including substations, transformers, and pad mounted switchgear
10. Wastewater pump systems

Provide each trainee in the course a written **training course outline**. Submit outline for approval at least 90 calendar days prior to training session. Provide to the Contracting Officer two copies of the **training video recording** in VHS or DVD format. Confirm media format required with the using activity. The recording shall capture, in video and audio, all instructors training presentations including question and answer periods with the trainees.

1.8 DOCUMENTATION

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

-- End of Section --

SECTION 01 50 00.05 20

TEMPORARY FACILITIES AND CONTROLS FOR DESIGN-BUILD
11/07

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 WATER WORKS ASSOCIATION(AWWA)

AWWA C511 (1997) Reduced-Pressure Principle Backflow Prevention Assembly

FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH (FCCCHR)

FCCCHR List (continuously updated) List of Approved Backflow Prevention Assemblies

FCCCHR Manual (9th Edition) Manual of Cross-Connection Control

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 241 (2000) Safeguarding Construction, Alteration, and Demolition Operations

NFPA 70 (2005) National Electrical Code

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

FHWA SA-89-006 (1988) Manual on Uniform Traffic Control Devices for Streets and Highways

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

40 CFR 247 Comprehensive Procurement Guideline for Products Containing Recovered Materials

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES and Section 01 33 00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-01 Preconstruction Submittals

Construction site plan;G

SD-03 Product Data

Backflow preventers

SD-06 Test Reports

Backflow Preventer Tests;G

SD-07 Certificates

Backflow Tester Certification; G

Backflow Preventers Certificate of Full Approval

1.3 EPA LISTED ITEMS USED IN CONDUCT OF THE WORK BUT NOT INCORPORATED IN THE WORK

There are many products listed in 40 CFR 247 which have been designated or proposed by EPA to include recycled or recovered materials that may be used by the Contractor in performing the work but will not be incorporated into the work. These products include office products, temporary traffic control products, and pallets. These non-construction products contain the highest practicable percentage of recycled or recovered materials and can be recycled when no longer needed.

1.4 NOT USED

1.5 BACKFLOW PREVENTERS CERTIFICATE

Certificate of Full Approval from FCCCHR List, University of Southern California, attesting that the design, size and make of each backflow preventer has satisfactorily passed the complete sequence of performance testing and evaluation for the respective level of approval. Certificate of Provisional Approval will not be acceptable.

1.5.1 Backflow Prevention Training Certificate

The Contractor shall submit a certificate recognized by the State or local authority that states the Contractor has completed at least 10 hours of training in backflow preventer installations. The certificate must be current.

1.6 TEMPORARY UTILITIES

Reasonable amounts of the following utilities will be made available to the Contractor without charge.

Electricity
Potable Water

The point at which Stennis Space Center will deliver such utilities or services and the quantity available shall be coordinated with the Contracting Officer. Stennis Space Center shall pay all costs incurred in connecting, converting, and transferring the utilities to the work. Stennis

Space Center shall make connections, including providing backflow-preventing devices on connections to domestic water lines; and providing transformers; and make disconnections. Under no circumstances will taps to base fire hydrants be allowed for obtaining domestic water.

1.7 NOT USED

1.8 WEATHER PROTECTION

Take necessary precautions to ensure that roof openings and other critical openings in the building are monitored carefully. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of each workday.

1.8.1 Building and Site Storm Protection

When a warning of gale force winds is issued, take precautions to minimize danger to persons, and protect the work and nearby Government property. Precautions shall include, but are not limited to, closing openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work when storms of lesser intensity pose a threat to the work or any nearby Government property.

1.8.1.1 Hurricane Condition of Readiness

Unless directed otherwise, comply with:

a. Condition FOUR (Sustained winds of 93 km/hr(58 mph) or greater expected within 72 hours): Normal daily jobsite cleanup and good housekeeping practices. Collect and store in piles or containers all scrap lumber, waste material, and rubbish for removal and disposal at the close of each work day. Maintain the construction site including storage areas, free of accumulation of debris. Stack form lumber in neat piles less than one meter(4 feet) high. Remove all debris, trash, or objects that could become missile hazards. Review requirements pertaining to "Condition THREE" and continue action as necessary to attain "Condition FOUR" readiness. Contact Contracting Officer for Condition of Readiness (COR) updates and completion of required actions.

b. Condition THREE (Sustained winds of 93 km/hr(58 mph) or greater expected within 48 hours): Maintain "Condition FOUR" requirements and commence securing operations necessary for "Condition TWO" readiness. Cease all routine activities which might interfere with securing operations. Commence securing and stow all gear and portable equipment. Make preparations for securing buildings. Reinforce or remove formwork and scaffolding. Secure machinery, tools, equipment, materials, or remove from the jobsite. Expend every effort to clear all missile hazards and loose equipment from general base areas. Contact Contracting Officer for weather and COR updates and completion of required actions.

c. Condition TWO (Sustained winds of 93 km/hr(58 mph) or greater expected within 24 hours): Secure the jobsite, and leave Government premises.

d. Condition ONE (Sustained winds of 93 km/hr(58 mph) or greater expected within 12 hours): Contractor access to the jobsite and Government premises is prohibited.

1.9 NOT USED

1.10 STORAGE AREAS

Contractor shall be responsible for security of his property. The Contract Clause entitled "FAR 52.236-10, Operations and Storage Areas" and the following apply:

1.10.1 Storage in Existing Buildings

The Contractor shall be working in and around existing buildings; the storage of material will not be allowed in the buildings. Provide 8 foot high security fence with a lockable gate around the storage area. Remove at the completion of work.

1.11 TEMPORARY SANITARY FACILITIES

Provide adequate sanitary conveniences of a type approved for the use of persons employed on the work, properly secluded from public observation, and maintained in such a manner as required and approved by the Contracting Officer. Maintain these conveniences at all times without nuisance. Upon completion of the work, remove the conveniences from the premises, leaving the premises clean and free from nuisance. Dispose of sewage through connection to a municipal, district, or station sanitary sewage system. Where such systems are not available, use chemical toilets or comparably effective units, and periodically empty wastes into a municipal, district, or station sanitary sewage system, or remove waste to a commercial facility. Include provisions for pest control and elimination of odors.

Provide temporary sewer and sanitation facilities that are self-contained units with both urinals and stool capabilities. Ventilate the units to control odors and fumes and empty and clean them at least once a week or more often if required by the Contracting Officer. The doors shall be self-closing. The exterior of the unit shall match the base standard color. Locate the facility behind the construction fence or out of the public view.

1.12 TEMPORARY BUILDINGS

Temporary facilities (including trailers) shall be in like new condition and shall be maintained throughout the project. Locate these facilities where directed and within the operations area. Failure to maintain storage trailers or buildings to these standards shall result in the removal of non-complying units at the Contractor's expense. A sign not smaller than 600 by 600 mm(24 by 24 inches) shall be conspicuously placed on the trailer depicting the company name, business phone number, and emergency phone number. Trailers shall be anchored to resist high winds and must meet applicable state of local standards for anchoring mobile trailers. Storage of material/debris under such facilities is prohibited. Contractor shall be responsible for the security of the stored property.

1.12.1 Not Used

1.12.2 Not Used

1.12.3 Quality Control Manager Records and Field Office

Provide on the jobsite an office with approximately 150 square feet of useful floor area for the exclusive use of the QC Manager. Provide a weathertight structure with adequate heating and cooling, toilet facilities, lighting, ventilation, 4 by 8 foot plan table, a standard size office desk and chair, computer station, and working communications facilities. Provide either a 1,500 watt radiant heater and a window-mounted air conditioner rated at 9,000 Btus minimum or a window-mounted heat pump of the same minimum heating and cooling ratings. Provide a door with a cylinder lock and windows with locking hardware. Make utility connections. Locate as directed. File quality control records in the office and make available at all times to the Government. After completion of the work, remove the entire structure from the site.

PART 2 PRODUCTS

2.1 NOT USED

2.2 NOT USED

PART 3 EXECUTION

3.1 TEMPORARY PHYSICAL CONTROLS

3.1.1 Access Controls

3.1.1.1 Temporary Barricades

Contractor shall provide for barricading around all work areas to prevent public access.

3.1.1.2 Fencing

Fencing shall be provided along the construction site at all open excavations and tunnels to control access by unauthorized people. Fencing must be installed to be able to restrain a force of at least 114.00 kg(250 pounds) against it.

Enclose the project work are and Contractor lay-down area with a 8 ft high chain link fence and gates. Remove the fence upon completion and acceptance of the work.

In addition, prior to the start of work, enclose those areas at the construction site which are not within the construction fence with a temporary safety fence, including gates and warning signs, to protect the public from construction activities. The safety fence shall match the base standard color (or bright orange where it protects excavated areas), shall be made of high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on minimum 10 foot centers. Remove the fence from the work site upon completion of the contract.

3.1.1.3 Signs

Place warning signs at the construction area perimeter designating the presence of construction hazards requiring unauthorized persons to keep out. Signs must be placed on all sides of the project, with at least one sign every 300 feet. All points of entry shall have signs designating the construction site as a hard hat area.

3.1.1.4 Traffic Work

All work around/involving roadways, to include roadway excavations and utility crossings, will be conducted in accordance with Manual of Traffic Control Devices. Contractors shall provide and ensure appropriate road closure and detour signs are established as necessary for motor traffic management. All road closures shall be coordinated with the Contracting Officer in advance. Self-illuminated (lighted) barricades shall be provided during hours of darkness. Brightly-colored (orange) vests are required for all personnel working in roadways. Road closures shall require a road closure plan showing the location of signage.

3.2 TEMPORARY WIRING

Provide temporary wiring in accordance with [NFPA 241](#) and [NFPA 70](#), Assured Equipment Grounding Conductor Program. Program shall include frequent inspection of all equipment and apparatus.

-- End of Section --

SECTION 01 57 19.00 20

TEMPORARY ENVIRONMENTAL CONTROLS
01/08

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. DEPARTMENT OF DEFENSE (DOD) UNIFIED FACILITIES CRITERIA (UFC)

UFC 3-200-10N Civil Engineering

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 530/F-93/004 (1993; Rev O; Updates I, II, IIA, IIB, and III) Test Methods for Evaluating Solid Waste (Vol IA, IB, IC, and II) (SW-846)

EPA 833-R-060-04 (2000) Developing Your Storm Water Pollution Prevention Plan, A Guide for Construction Sites

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

29 CFR 1910 Occupational Safety and Health Standards

29 CFR 1910.120 Hazardous Waste Operations and Emergency Response

40 CFR 82 Protection of Stratospheric Ozone

40 CFR 112 Oil Pollution Prevention

40 CFR 122.26 Storm Water Discharges (Applicable to State NPDES Programs, see section 40 CFR 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 262 Standards Applicable to Generators of Hazardous Waste

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 270	EPA Administered Permit Programs: The Hazardous Waste Permit Program
40 CFR 271	Requirements for Authorization of State Hazardous Waste Programs
40 CFR 272	Approved State Hazardous Waste Management Programs
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 355	Emergency Planning and Notification
40 CFR 372-SUBPART D	Specific Toxic Chemical Listings
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
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 Packaging
49 CFR 178	Specifications for Packaging

1.2 DEFINITIONS

1.2.1 Sediment

Soil and other debris that have eroded and have been transported by runoff water or wind.

1.2.2 Solid Waste

Garbage, refuse, debris, sludge, or other discharged material, including solid, liquid, semisolid, or contained gaseous materials resulting from domestic, industrial, commercial, mining, or agricultural operations. Types of solid waste typically generated at construction sites may include:

- a. Green waste: 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.
- b. Surplus soil: 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.
- c. Debris: Non-hazardous solid material generated during the construction, demolition, or renovation of a structure which exceeds 60 mm(2.5 inch) (2.5 inch) particle size that is: a manufactured object; plant or animal matter; or natural geologic material (e.g. 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..
- d. Wood: Dimension and non-dimension lumber, plywood, chipboard, hardboard. Treated and/or painted wood that meets the definition of lead contaminated or lead based contaminated paint is not included.
- e. Scrap metal: 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.
- f. Paint cans: Metal cans that are empty of paints, solvents, thinners and adhesives. If permitted by the paint can label, a thin dry film may remain in the can.
- g. Recyclables: Materials, equipment and assemblies such as doors, windows, door and window frames, plumbing fixtures, glazing and mirrors that are recovered and sold as recyclable. Metal meeting the definition of lead contaminated or lead based paint contaminated may not be included as recyclable if sold to a scrap

metal company. Paint cans may not be included as recyclable if sold to a scrap metal company.

h. Hazardous Waste: By definition, to be a hazardous waste a material must first meet the definition of a solid waste. Hazardous waste and hazardous debris are special cases of solid waste. They have additional regulatory controls and must be handled separately. They are thus defined separately in this document.

Material not regulated as solid waste are: nuclear source or byproduct materials regulated under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

1.2.3 Hazardous Debris

As defined in Solid Waste paragraph, debris that contains listed hazardous waste (either on the debris surface, or in its interstices, such as pore structure) per 40 CFR 261; or debris that exhibits a characteristic of hazardous waste per 40 CFR 261.

1.2.4 Chemical Wastes

This includes salts, acids, alkalizes, herbicides, pesticides, and organic chemicals.

1.2.5 Garbage

Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

1.2.6 Hazardous Waste

Any discarded material, liquid, solid, or gas, which meets the definition of hazardous material or is designated hazardous waste by the Environmental Protection Agency or State Hazardous Control Authority as defined in 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, 40 CFR 265, 40 CFR 266, 40 CFR 268, 40 CFR 270, 40 CFR 271, 40 CFR 272, 40 CFR 273, 40 CFR 279, and 40 CFR 280.

1.2.7 Hazardous Materials

Hazardous materials as defined in 49 CFR 171 and listed in 49 CFR 172.

Hazardous material is any material that:

- a. Is regulated as a hazardous material per 49 CFR 173, or
- b. Requires a Material Safety Data Sheet (MSDS) per 29 CFR 1910.120, or
- c. During end use, treatment, handling, packaging, storage, transpiration, 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 instructions or directives, does not eliminate the need for adherence to that hazard-specific guidance which takes precedence over this instruction for "control" purposes. Such material include 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). Nonetheless, the exposure may occur incident to manufacture, storage, use and demilitarization of these items.

1.2.8 Waste Hazardous Material (WHM)

Any waste material which because of its quantity, concentration, or physical, chemical, or infectious characteristics may pose a substantial hazard to human health or the environment and which has been so designated. Used oil not containing any hazardous waste, as defined above, falls under this definition.

1.2.9 Oily Waste

Those materials which are, or were, mixed with used oil and have become separated from that used oil. 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, used oil 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:

- a. It is not prohibited in other State regulations or local ordinances
- b. The amount generated is "de minimus" (a small amount)
- c. It is the result of minor leaks or spills resulting from normal process operations
- d. All free-flowing oil has been removed to the practical 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, a hazardous waste determination must be performed 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.

1.2.10 Regulated Waste

Those solid waste that have specific additional Federal, state, or local controls for handling, storage, or disposal.

1.2.11 Class I Ozone Depleting Substance (ODS)

Class I ODS is defined in Section 602(a) of The Clean Air Act and includes the following chemicals:

chlorofluorocarbon-11 (CFC-11)
chlorofluorocarbon-12 (CFC-12)
chlorofluorocarbon-13 (CFC-13)
chlorofluorocarbon-111 (CFC-111)
chlorofluorocarbon-112 (CFC-112)
chlorofluorocarbon-113 (CFC-113)
chlorofluorocarbon-114 (CFC-114) chlorofluorocarbon-115 (CFC-115)
chlorofluorocarbon-211 (CFC-211)
chlorofluorocarbon-212 (CFC-212) methyl bromide
chlorofluorocarbon-213 (CFC-213)
chlorofluorocarbon-214 (CFC-214)
chlorofluorocarbon-215 (CFC-215)
chlorofluorocarbon-216 (CFC-216)
chlorofluorocarbon-217 (CFC-217)
chlorofluorocarbon-500 (CFC-500)
chlorofluorocarbon-502 (CFC-502)
chlorofluorocarbon-503 (CFC-503)
halon-1211
halon-1301
halon-2402
carbon tetrachloride
methyl bromide
methyl chloroform

Class II ODS is defined in Section 602(s) of The Clean Air Act and includes the following chemicals:

hydrochlorofluorocarbon-21 (HCFC-21)
hydrochlorofluorocarbon-22 (HCFC-22)
hydrochlorofluorocarbon-31 (HCFC-31)
hydrochlorofluorocarbon-121 (HCFC-121)
hydrochlorofluorocarbon-122 (HCFC-122)
hydrochlorofluorocarbon-123 (HCFC-123)
hydrochlorofluorocarbon-124 (HCFC-124)
hydrochlorofluorocarbon-131 (HCFC-131)
hydrochlorofluorocarbon-132 (HCFC-132)
hydrochlorofluorocarbon-133 (HCFC-133)
hydrochlorofluorocarbon-141 (HCFC-141)
hydrochlorofluorocarbon-142 (HCFC-142)
hydrochlorofluorocarbon-221 (HCFC-221)
hydrochlorofluorocarbon-222 (HCFC-222)
hydrochlorofluorocarbon-223 (HCFC-223)
hydrochlorofluorocarbon-224 (HCFC-224)
hydrochlorofluorocarbon-225 (HCFC-225)
hydrochlorofluorocarbon-226 (HCFC-226)
hydrochlorofluorocarbon-231 (HCFC-231)
hydrochlorofluorocarbon-232 (HCFC-232)
hydrochlorofluorocarbon-233 (HCFC-233)
hydrochlorofluorocarbon-234 (HCFC-234)

hydrochlorofluorocarbon-235 (HCFC-235)
hydrochlorofluorocarbon-241 (HCFC-241)
hydrochlorofluorocarbon-242 (HCFC-242)
hydrochlorofluorocarbon-243 (HCFC-243)
hydrochlorofluorocarbon-244 (HCFC-244)
hydrochlorofluorocarbon-251 (HCFC-251)
hydrochlorofluorocarbon-252 (HCFC-252)
hydrochlorofluorocarbon-253 (HCFC-253)
hydrochlorofluorocarbon-261 (HCFC-261)
hydrochlorofluorocarbon-262 (HCFC-262)
hydrochlorofluorocarbon-271 (HCFC-271)

1.2.11.1 Universal Waste

The universal waste regulations streamline collection requirements for certain hazardous wastes in the following categories: batteries, pesticides, mercury-containing equipment (e.g., thermostats) and lamps (e.g., 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" designation; submittals not having a "G" designation are for Contractor Quality Control approval. The following shall be submitted in accordance with Section 01 33 00 *Submittal Procedures*:

SD-01 Preconstruction Submittals

Preconstruction Survey; G

Environmental Management Plan; G

Solid Waste Management Plan and Permit; G

Regulatory Notifications; G

Storm Water Pollution Prevention Plan; G

Storm Water Notice of Intent (for NPDES coverage under the general permit for construction activities); G

Contractor Hazardous Material Inventory Log; G

ECATTS list of Contractor and Subcontractor company names; G

SD-06 Test Reports

Laboratory Analysis

Disposal Requirements

Erosion and Sediment Control Inspection Reports

Storm Water Inspection Reports for General Permit

Contractor 40 CFR employee training records

Solid Waste Management Report; G

SD-11 Closeout Submittals

Some of the records listed below are also required as part of other submittals. For the "Records" submittal, maintain on-site a separate three-ring Environmental Records binder and submit at the completion of the project. Make separate parts to the binder corresponding to each of the applicable sub items listed below.

Storm water pollution prevention plan compliance notebook; G

Waste Determination Documentation

Disposal Documentation for Hazardous and Regulated Waste

Contractor 40 CFR Employee Training Records

Solid Waste Management Report

Contractor Hazardous Material Inventory Log; G

Hazardous Waste/Debris Management

Regulatory Notifications

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 normal 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. 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.

The Contractor may be required to promptly conduct tests and procedures for the purpose of assessing whether construction operations are in compliance with Applicable Environmental Laws. Analytical work shall be done by qualified laboratories; and where required by law, the laboratories shall be certified.

1.4.1 Environmental Compliance Assessment Training and Tracking System (ECATTS)

Submit a ECATTS list of Contractor and Subcontractor company names for each Contractor and Sub-contractor performing construction work on this project that has completed the required "Environmental Compliance Assessment Training and Tracking System (ECATTS)" training.

This training is web-based and can be accessed from any computer with Internet access using the following instructions. Prior to registration and completion of training the Contractor or Sub-Contractor Company Name and Contract Number MUST be in the training database.

Submit Contractor and Subcontractor company names list for ECATTS for all sub-contractors doing work on this Contract Number to the Contracting Officer immediately after award of a contract.

This list shall be updated and re-submitted as sub-contracts are awarded. Register for NAVFAC's Environmental Compliance Assessment Training and Tracking System, by logging on to <http://navfac.ecatts.com>. Obtain the password for registration from the Contracting Officer.

Personnel in the positions listed below shall complete ECATTS Training prior to starting their respective portions of on-site work under this contract. If personnel changes occur for any of these positions after starting work, replacement personnel shall complete ECATTS training within 14 days of assignment to the project.

Prime Contractor

- Project Manager
- Project Superintendent
- Quality Control Manager
- Environmental Manager (as specified in this specification)

Sub-Contractors

- Project Manager (or equivalent office person)
- Superintendent (or equivalent job-site person)

This training has been structured to allow contractors to receive credit under this contract and also to carry forward credit to future contracts. Contractors or sub-contractors shall ensure that all personnel review their training plans for new modules or updated training requirements prior to beginning work. Some training modules are tailored for specific State regulatory requirements, therefore, Contractors working in multiple states will be required to re-take modules tailored to the state where the contract work is being performed.

1.4.2 [Conformance with the Environmental Management System](#)

The Contractor shall perform work under this contract consistent with the policy and objectives identified in the installation's Environmental Management System (EMS). The Contractor shall perform work in a manner that conforms to objectives and targets, environmental programs and operational controls identified by the EMS. The Contractor will provide monitoring and measurement information as necessary to address environmental performance relative to environmental, energy, and transportation management goals. In the event an EMS nonconformance or environmental noncompliance associated with the contracted services, tasks, or actions occurs, the Contractor shall take corrective and/or preventative actions. In addition, the Contractor shall ensure that its employees are aware of their roles and responsibilities under the EMS and how these EMS roles and responsibilities affect work performed under the contract.

The Contractor is responsible for ensuring that their employees receive applicable environmental and occupational health and safety training, and

keep up to date on regulatory required specific training for the type of work to be conducted onsite. All on-site Contractor personnel, and their subcontractor personnel, performing tasks that have the potential to cause a significant environmental impact shall be competent on the basis of appropriate education, training or experience. Upon contract award, the Contracting Officer's Representative will notify the installation's EMS coordinator to arrange EMS training. Refer to Section 01 57 19.01 20, Supplemental Temporary Environmental Controls for additional site specific EMS requirements related to construction. The installation's EMS coordinator shall identify training needs associated with environmental aspects and the EMS coordinator shall identify training needs associated with environmental aspects and the EMS, and arrange training or take other action to meet these needs. The Contractor shall provide training documentation to the contracting Officer. The installations EMS coordinator shall retain associated records.

1.5 QUALITY ASSURANCE

1.5.1 Preconstruction Survey

Perform a **Preconstruction Survey** of the project site with the Contracting Officer, and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record.

1.5.2 Regulatory Notifications

The Contractor is responsible for all regulatory notification requirements in accordance with Federal, State and local regulations. In cases where the Navy must also provide public notification (such as storm water permitting), the Contractor must coordinate with the Contracting Officer. The Contractor shall submit copies of all regulatory notifications to the Contracting Officer 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, 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 that will be brought onto the activity; 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 and activity environmental staff to discuss the proposed Environmental Management Plan. Develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural resources, required reports, required permits, permit requirements, and other measures to be taken.

1.5.4 Environmental Manager

Appoint in writing an Environmental Manager for the project site. The Environmental Manager will be directly responsible for coordinating contractor compliance with Federal, State, local, and station requirements.

The Environmental Manager will ensure compliance with Hazardous Waste Program requirements (including hazardous waste handling, storage, manifesting, and disposal); implement the Environmental Management Plan; ensure that all environmental permits are obtained, maintained, and closed out; ensure compliance with Storm Water Program Management 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 all 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.

1.5.5 Contractor 40 CFR Employee Training Records

Prepare and maintain employee training records throughout the term of the contract meeting applicable 40 CFR requirements. Submit these training records to the Contracting Officer at the conclusion of the project, unless otherwise directed.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 ENVIRONMENTAL MANAGEMENT PLAN

Prior to initiating any work on site, the Contractor will meet with the Contracting Officer to discuss the proposed Environmental Management Plan and develop a mutual understanding relative to the details of environmental protection, including measures for protecting natural resources, required reports, and other measures to be taken. The Contractor's Environmental Management Plan shall incorporate construction related objectives and targets from the installation's Environmental Management System. The Environmental Management Plan will be submitted in the following format and shall include the elements specified below.

a. Description of the Environmental Management Plan

(1) General overview and purpose

(a) A brief description of each specific plan required by environmental permit or elsewhere in this contract. The Permit Record of decision (PROD) form found in UFC 3-200-10N may be used to help accomplish this task.

(b) The duties and level of authority assigned to the person(s) on the job site that oversee environmental compliance.

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(c) 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.

(d) Communication and training procedures that will be used to convey environmental management requirements to contractor employees and subcontractors.

(e) Emergency contact information contact information (office phone number, cell phone number, and e-mail address).

(2) General site information

(3) A letter signed by an officer of the firm appointing the Environmental Manager and stating that he/she 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.

b. Management of Natural Resources

- (1) Land resources
- (2) Tree protection
- (3) Replacement of damaged landscape features
- (4) Temporary construction
- (5) Stream crossings
- (6) Fish and wildlife resources
- (7) Wetland areas

c. Protection of Historical and Archaeological Resources

- (1) Objectives
- (2) Methods

d. Storm Water Management and Control

- (1) Ground cover
- (2) Erodible soils
- (3) Temporary measures
 - (a) Mechanical retardation and control of runoff
 - (b) Vegetation and mulch
- (4) Effective selection, implementation and maintenance of Best Management Practices (BMPs).

e. Protection of the Environment from Waste Derived from Contractor Operations

(1) Control and disposal of solid and sanitary waste. If Section 01 74 19.05 20 is included in the contract, submit the plan required by that section as part of the Environmental Management Plan.

(2) Control and disposal of hazardous waste (Hazardous Waste Management Section)

This item will consist of the management procedures for all hazardous waste to be generated. The elements of those procedures will coincide with the Activity Hazardous Waste Management Plan. A copy of the Activity Hazardous Waste Management Plan will be provided by the Contracting Officer. As a minimum, include the following:

- (a) Procedures to be employed to ensure a written waste determination is made for appropriate wastes which are to be generated;
- (b) Sampling/analysis plan;
- (c) Methods of hazardous waste accumulation/storage (i.e., in tanks and/or containers);
- (d) Management procedures for storage, labeling, transportation, and disposal of waste (treatment of waste is not allowed unless specifically noted);
- (e) Management procedures and regulatory documentation ensuring disposal of hazardous waste complies with Land Disposal Restrictions (40 CFR 268);
- (f) Management procedures for recyclable hazardous materials such as lead-acid batteries, used oil, and the like;
- (g) Used oil management procedures in accordance with 40 CFR 279;
- (h) Pollution prevention\hazardous waste minimization procedures;
- (i) Plans for the disposal of hazardous waste by permitted facilities;
- (j) Procedures to be employed to ensure all required employee training records are maintained.

f. Prevention of Releases to the Environment

- (1) Procedures to prevent releases to the environment
- (2) Notifications in the event of a release to the environment

g. Regulatory Notification and Permits

(1) List what notifications and permit applications must be made. Demonstrate that those permits have been obtained by including copies of all applicable, environmental permits. Be aware that some permits required under the Environmental Management Plan require up to 30 days advance regulator notice before site work may begin.

3.1.1 Environmental Management Plan Review

Within thirty days after the Contract award date, submit the proposed Environmental Management Plan for further discussion, review, and approval. Commencement of work will not begin until the environmental management plan has been approved.

3.1.2 Licenses and Permits

Obtain licenses and permits pursuant to the "Permits and Responsibilities" FAR Clause 52.236-7.

No permits will be obtained by the Contracting Officer.

Where required by the State regulatory authority, the inspections and certifications will be provided through the services of a Professional Engineer (PE), registered in the State where the work is being performed. Where a PE is not required, the individual must be otherwise qualified by other current State licensure, specific training and prior experience (minimum 5 years). As a part of the quality control plan, which is required to be submitted for approval by the quality control section, provide a sub item containing the name, appropriate professional registration or license number, address, and telephone number of the professionals or other qualified persons who will be performing the inspections and certifications for each permit.

3.2 PROTECTION OF NATURAL RESOURCES

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. If the work is near streams, lakes, or other waterways, conform to the national permitting requirements of the Clean Water Act.

Do not disturb fish and wildlife. 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 indicated or specified.

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 will be responsible for any resultant damage.

Protect existing trees which are to remain and which may be injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. By approved excavation, remove trees with 30 percent or more of their root systems destroyed. Remove trees and other landscape features scarred or damaged by equipment operations, and replace with equivalent, undamaged trees and landscape features. Obtain Contracting Officer's approval before replacement.

The Contracting Officer's approval is 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.

3.2.1 Erosion and Sediment Control Measures

3.2.1.1 Burnoff

Burnoff of the ground cover is not permitted.

3.2.1.2 Protection of Erodible Soils

Immediately finish the earthwork brought to a final grade, as indicated or specified. Immediately protect the side slopes and back slopes upon completion of rough grading. Plan and conduct earthwork to minimize the duration of exposure of unprotected soils.

3.2.1.3 Temporary Protection of Erodible Soils

Use the following methods to prevent erosion and control sedimentation:

a. Mechanical Retardation and Control of Runoff

(1) Mechanically retard and control the rate of runoff from the construction site. This includes construction of diversion ditches, benches, berms, and use of silt fences and straw bales to retard and divert runoff to protected drainage courses.

b. Vegetation and Mulch

(1) Provide temporary protection on sides and back slopes as soon as rough grading is completed or sufficient soil is exposed to require erosion protection. Protect slopes by accelerated growth of permanent vegetation, temporary vegetation, mulching, or netting. Stabilize slopes by hydroseeding, anchoring mulch in place, covering with anchored netting, sodding, or such combination of these and other methods necessary for effective erosion control.

(2) Seeding: Provide new seeding where ground is disturbed. Include topsoil or nutriment during the seeding operation necessary to establish or reestablish a suitable stand of grass.

3.2.2 Erosion and Sediment Control Inspection Reports

Submit "[Erosion and Sediment Control Inspection Reports](#)" (E&S) (form provided at the pre-construction conference) to the Contracting Officer once every 7 calendar days and within 24 hours of a storm event that produces 12 mm(0.5 inch) or more of rain.

Note erosion control inspection reports may be compiled as part of a stormwater pollution prevention plan inspection reports if applicable.

3.2.2.1 Storm Water Notice of Intent for Construction Activities and Storm Water Pollution Prevention Plan

The Contractor shall submit a [Storm Water Notice of Intent \(for NPDES coverage under the general permit for construction activities\)](#) and a [Storm Water Pollution Prevention Plan \(SWPPP\)](#) for the project to the Contracting

Officer prior and gain approval prior to the commencement of work. The SWPPP will meet the requirements of the EPA or State general permit for storm water discharges from construction sites. Submit the SWPPP along with any required Notice of Intents, Notice of Termination, and appropriate permit fees, via the Contracting Officer, to the appropriate Federal or State agency for approval, a minimum of 45 calendar days prior to the start of any land disturbing activities. The Contractor shall maintain an approved copy of the SWPPP at the construction on-site office, and continually update as regulations require, reflecting current site conditions.

Coverage under this permit requires the contractor prepare a Storm Water Pollution Prevention Plan (SWPPP), prepare and submit a Registration Statement as a co-permittee with the Construction Officer, and provide the permit fee to the responsible state agency before any land disturbing activities begin. The contractor shall file for permit coverage on behalf Construction Officer and himself and file a Notice of Termination once construction is complete and the site is stabilized with a final sustainable cover.

Under the terms and conditions of the permit, the Contractor may be required to install, inspect, maintain best management practices (BMPs), and submit stormwater BMP inspection reports and stormwater pollution prevention plan inspection reports. The Contractor shall ensure construction operations and management are constantly in compliance with the terms and conditions of the general permit for storm water discharges from construction activities.

(1) The SWPPP shall:

- a. Identify potential sources of pollution which may be reasonably expected to affect the quality of storm water discharge from the site.
- b. Describe and ensure implementation of practices which will be used to reduce the pollutants in storm water discharge from the site.
- c. Ensure compliance with terms of the EPA or State general permit for storm water discharge.
- d. Select applicable best management practices from EPA 833-R-060-04.
- e. Include a completed copy of the Registration Statement, BMP Inspection Report Template and Notice of Termination except for the effective date.
- [f. Storm Water Pollution Prevention Measures and Notice of Intent [40 CFR 122.26](#), [EPA 833-R-060-04](#). Provide a "Storm Water Pollution Prevention Plan" (SWPPP) for the project. The SWPPP will meet the requirements of the EPA or State general permit for storm water discharges from construction sites. Submit the SWPPP along with any required Notice of Intents, Notice of Termination, and appropriate permit fees, via the Contracting Officer, to the appropriate Federal or State agency for approval, a minimum of 14 calendar days prior to the start of construction. A copy of the approved SWPPP will be kept at the construction on-site office, and

continually updated as regulations require reflecting current site conditions.]

3.2.2.2 Storm Water Pollution Prevention Plan Compliance Notebook

The contractor shall create and maintain a three ring binder of documents that demonstrate compliance with the Stormwater Construction Activity permit. The binder shall include a copy of the permit Registration Statement, proof of permit fee payment, SWPPP and SWPPP update amendments, inspection reports, copies of correspondence with the list agency that issued the permit and a copy of the permit Notice of Termination. At the completion of the project the folder shall become the property of the Government. The compliance notebook shall be provided to Contracting Officer. An advance copy of the Registration Statement shall be provided to the Contracting Officer immediately after the form is presented to the permitting agency.

3.2.3 Stormwater Drainage and Construction Dewatering

There will be no discharge of excavation ground water to the sanitary sewer, storm drains, or to the river without prior specific authorization of the Environmental Division in writing. Discharge of hazardous substances will not be permitted under any circumstances.

Construction site runoff will be prevented from entering any storm drain or the river directly by the use of straw bales or other method suitable to the Environmental Division. Contractor will provide erosion protection of the surrounding soils.

Construction Dewatering shall not be discharged to the sanitary sewer. If the construction dewatering is noted or suspected of being contaminated, it may only be released to the storm drain system if the discharge is specifically permitted. Authorization for any contaminated groundwater release shall be obtained in advance from the base Environmental Officer. Discharge of hazardous substances will not be permitted under any circumstances.

3.3 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

Carefully protect in-place and report immediately to the Contracting Officer historical and archaeological items or human skeletal remains discovered in the course of work. Upon discovery, notify the Contracting Officer. Stop work in the immediate area of the discovery until directed by the Contracting Officer to resume work. The Government retains ownership and control over historical and archaeological resources.

3.4 SOLID WASTE MANAGEMENT PLAN AND PERMIT

Provide to the contracting officer written notification of the quantity of solid waste/debris that is anticipated to be generated by construction. Include in the plan the locations where various types of waste will be disposed or recycled. Include letters of acceptance or as applicable, submit one copy of a State and local solid waste management permit or license showing such agency's approval of the disposal plan before transporting wastes off Government property.

3.4.1 Solid Waste Management Report

Monthly, submit a solid waste disposal report to the Contracting Officer. For each waste, the report will state the classification (using the definitions provided in this section), amount, location, and name of the business receiving the solid waste.

The Contractor shall include copies of the waste handling facilities' weight tickets, receipts, bills of sale, and other sales documentation. In lieu of sales documentation, the Contractor may submit a statement indicating the disposal location for the solid waste which is signed by an officer of the Contractor firm authorized to legally obligate or bind the firm. The sales documentation or Contractor certification will include the receiver's tax identification number and business, EPA or State registration number, along with the receiver's delivery and business addresses and telephone numbers.

For each solid waste retained by the Contractor for his own use, the Contractor will submit on the solid waste disposal report the information previously described in this paragraph. Prices paid or received will not be reported to the Contracting Officer unless required by other provisions or specifications of this Contract or public law.

3.4.2 Control and Management of Solid Wastes

Pick up solid wastes, and place in covered containers which 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. Recycling is encouraged and can be coordinated with the Contracting Officer and the activity recycling coordinator. Remove all solid waste (including non-hazardous debris) from Government property and dispose off-site at an approved landfill. Solid waste disposal off-site must comply with most stringent local, State, and Federal requirements including 40 CFR 241, 40 CFR 243, and 40 CFR 258.

Manage spent hazardous material used in construction, including but not limited to, aerosol cans, waste paint, cleaning solvents, contaminated brushes, and used rags, as per environmental law.

3.4.2.1 Dumpsters

Equip dumpsters with a secure cover and paint the standard base color. Keep cover closed at all times, except when being loaded with trash and debris. Locate dumpsters behind the construction fence or out of the public view. Empty site dumpsters at least once a week, or as needed to keep the site free of debris and trash. If necessary, provide 208 liter (55 gallon) trash containers painted the darker base color to collect debris in the construction site area. Locate the trash containers behind the construction fence or out of the public view. Empty trash containers at least once a day. For large demolitions, large dumpsters without lids are acceptable but should not have debris higher than the sides before emptying.

3.5 WASTE DETERMINATION DOCUMENTATION

Complete a Waste Determination form (provided at the pre-construction conference) for all contractor derived wastes to be generated. Base the waste determination upon either a constituent listing from the manufacturer used in conjunction with consideration of the process by which the waste was generated, EPA approved analytical data, or laboratory analysis (Material Safety Data Sheets (MSDS) by themselves are not adequate). Attach all

support documentation to the Waste Determination form. As a minimum, a Waste Determination form must be provided for the following wastes (this listing is not all inclusive): oil and latex based painting and caulking products, solvents, adhesives, aerosols, petroleum products, and all containers of the original materials.

3.6 CONTRACTOR HAZARDOUS MATERIAL INVENTORY LOG

Submit the "Contractor Hazardous Material Inventory Log"(found at: <URL><http://www.wbdg.org/ccb/NAVGRAPH/graphoc.pdf></URL>), which provides information required by (EPCRA Sections 312 and 313) along with corresponding Material Safety Data Sheets (MSDS) to the Contracting Officer at the start and at the end of construction (30 days from final acceptance), and update no later than January 31 of each calendar year during the life of the contract. Documentation for any spills/releases, environmental reports or off-site transfers may be requested by the Contracting Officer.

3.6.1 Disposal Documentation for Hazardous and Regulated Waste

Manifest, pack, and deliver to Building 2204 for disposal, by the government, of hazardous or toxic waste and universal waste that is generated as a result of construction in accordance with the generating facilities generator status under the Resource Conservation and Recovery Act. Contact the Contracting Officer for the facility RCRA identification number that is to be used on each manifest.

3.7 POLLUTION PREVENTION/HAZARDOUS WASTE MINIMIZATION

Minimize the use of hazardous materials and the generation of hazardous waste. Include procedures for pollution prevention/ hazardous waste minimization in the Hazardous Waste Management Section of the Environmental Management Plan. Consult with the activity Environmental Office for suggestions and to obtain a copy of the installation's pollution prevention/hazardous waste minimization plan for reference material when preparing this part of the plan. If no written plan exists, obtain information by contacting the Contracting Officer. Describe the types of the hazardous materials expected to be used in the construction when requesting information.

3.8 WHM/HW MATERIALS PROHIBITION

No waste hazardous material or hazardous waste shall be disposed of on government property. No hazardous material shall be brought onto government property that does not directly relate to requirements for the performance of this contract. The government is not responsible for disposal of Contractor's waste material brought on the job site and not required in the performance of this contract.

The intent of this provision is to dispose of that waste identified as waste hazardous material/hazardous waste as defined herein that was generated as part of this contract and existed within the boundary of the Contract limits and not brought in from offsite by the Contractor. Incidental materials used to support the contract including, but not limited to aerosol cans, waste paint, cleaning solvents, contaminated brushes, rags, clothing, etc. are the responsibility of the Contractor.

The list is illustrative rather than inclusive. The Contractor is not authorized to discharge any materials to sanitary sewer, storm drain, or to

the river or conduct waste treatment or disposal on government property without written approval of the Contracting Officer.

3.9 HAZARDOUS MATERIAL MANAGEMENT

No hazardous material shall be brought onto government property that does not directly relate to requirements for the performance of this contract.

Include hazardous material control procedures in the Safety Plan. Address procedures and proper handling of hazardous materials, including the appropriate transportation requirements. Submit a MSDS and estimated quantities to be used for each hazardous material to the Contracting Officer prior to bringing the material on base.

Typical materials requiring MSDS and quantity reporting include, but are not limited to, oil and latex based painting and caulking products, solvents, adhesives, aerosol, and petroleum products. At the end of the project, provide the Contracting Officer with the maximum quantity of each material that was present at the site at any one time, the dates the material was present, the amount of each material that was used during the project, and how the material was used.

Ensure that hazardous materials are utilized in a manner that will minimize the amount of hazardous waste that is generated. Ensure that all containers of hazardous materials have NFPA labels or their equivalent. Keep copies of the MSDS for hazardous materials on site at all times and provide them to the Contracting Officer at the end of the project. Certify that all hazardous materials removed from the site are hazardous materials and do not meet the definition of hazardous waste per 40 CFR 261.

3.10 PETROLEUM PRODUCTS AND REFUELING

Conduct the fueling and lubricating of equipment and motor vehicles in a manner that protects against spills and evaporation. Manage all used oil generated on site in accordance with 40 CFR 279. Determine if any used oil generated while on-site exhibits a characteristic of hazardous waste. Used oil containing 1000 parts per million of solvents will be considered a hazardous waste and disposed of at Contractor's expense. Used oil mixed with a hazardous waste will also be considered a hazardous waste.

3.10.1 Oily and Hazardous Substances

Prevent oil or hazardous substances from entering the ground, drainage areas, or navigable waters. In accordance with 40 CFR 112, surround all temporary fuel oil or petroleum storage tanks with a temporary berm or containment of sufficient size and strength to contain the contents of the tanks, plus 10 percent freeboard for precipitation. The berm will be impervious to oil for 72 hours and be constructed so that any discharge will not permeate, drain, infiltrate, or otherwise escape before cleanup occurs.

3.10.2 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, the contractor shall immediately notify the contracting officer. The contractor shall not disturb this material until authorized by the contracting officer.

3.11 FUEL TANKS

Petroleum products and lubricants required to sustain up to 30 days of construction activity may be kept on site. Storage and refilling practices shall comply with 40 CFR Part 112. Secondary containment shall be provided and be no less than 110 percent of the tank volume plus five inches of free-board.

If a secondary berm is used for containment then the berm shall be impervious to oil for 72 hours and be constructed so that any discharge will not permeate, drain, infiltrate, or otherwise escape before cleanup occurs. Drips pans are required and the tanks must be covered during inclement weather.

3.12 RELEASES/SPILLS OF OIL AND HAZARDOUS SUBSTANCES

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 by environmental law. 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 the Base or Activity Fire Department, the activity's Command Duty Officer, and the Contracting Officer. If the contractor's response is inadequate, the Navy may respond. If this should occur, the contractor will be required to reimburse the government for spill response assistance and analysis.

The Contractor is responsible for verbal and written notifications as required by the federal 40 CFR 355, State, local regulations and Navy Instructions. Spill response will be in accordance with 40 CFR 300 and applicable State and local regulations. Contain and clean up these spills without cost to the Government. If Government assistance is requested or required, the Contractor will reimburse the Government for such assistance. Provide copies of the written notification and documentation that a verbal notification was made within 20 days.

Maintain spill cleanup equipment and materials at the work site. Clean up all hazardous and non-hazardous (WHM) waste spills. The Contractor shall reimburse the government for all material, equipment, and clothing generated during any spill cleanup. The Contractor shall reimburse the government for all costs incurred including sample analysis materials, equipment, and labor if the government must initiate its own spill cleanup procedures, for Contractor responsible spills, when:

- a. The Contractor has not begun spill cleanup procedure within one hour of spill discovery/occurrence, or

b. If, in the government's judgment, the Contractor's spill cleanup is not adequately abating life threatening situation and/or is a threat to any body of water or environmentally sensitive areas.

3.13 CONTROL AND MANAGEMENT OF HAZARDOUS WASTES

3.13.1 Facility Hazardous Waste Generator Status

NASA/Stennis Space Center is designated as a Large Quantity Generator. All work conducted within the boundaries of this activity must meet the regulatory requirements of this generator designation. The Contractor will comply with all provisions of Federal, State and local regulatory requirements applicable to this generator status regarding training and storage, handling, and disposal of all construction derived wastes.

3.13.2 Hazardous Waste/Debris Management

Identify all construction activities which will generate hazardous waste/debris. Provide a documented waste determination for all resultant waste streams. Hazardous waste/debris will be identified, labeled, handled, stored, and disposed of in accordance with all 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.

Hazardous waste will also be managed in accordance with the approved Hazardous Waste Management Section of the Environmental Management Plan. Store hazardous wastes in approved containers in accordance with 49 CFR 173 and 49 CFR 178. Hazardous waste generated within the confines of Government facilities will be identified as being generated by the Government.

Prior to removal of any hazardous waste from Government property, all hazardous waste manifests must be signed by activity personnel from the Station Environmental Office. No hazardous waste will be brought onto Government property. Provide to the Contracting Officer a copy of waste determination documentation for any solid waste streams that have any potential to be hazardous waste or contain any chemical constituents listed in 40 CFR 372-SUBPART D. For hazardous wastes spills, verbally notify the Contracting Officer immediately.

3.13.2.1 Regulated Waste Storage/Satellite Accumulation/90 Day Storage Areas

If the work requires the temporary storage/collection of regulated or hazardous wastes, the Contractor will request the establishment of a Regulated Waste Storage Area, a Satellite Accumulation Area, or a 90 Day Storage Area at the point of generation. The Contractor must submit a request in writing to the Contracting Officer providing the following information:

<u>Contract Number</u>	_____	<u>Contractor</u>	_____
<u>Haz/Waste or Regulated Waste POC</u>	_____	<u>Phone Number</u>	_____
<u>Type of Waste</u>	_____	<u>Source of Waste</u>	_____

Emergency POC _____ Phone Number _____

Location of the Site: _____
(Attach Site Plan to the Request)

Attach a waste determination form. Allow ten working days for processing this request. The designated area where waste is being stored shall be barricaded and a sign identifying as follows: "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT"

3.13.2.2 Sampling and Analysis of HW

a. Waste Sampling

Sample waste in accordance with EPA 530/F-93/004. Each sampled drum or container will be clearly marked with the Contractor's identification number and cross referenced to the chemical analysis performed.

b. Laboratory Analysis

Follow the analytical procedure and methods in accordance with the 40 CFR 261. The Contractor will provide all analytical results and reports performed to the Contracting Officer

c. Analysis Type

Identify waste hazardous material/hazardous waste by analyzing for the following properties as a minimum: ignitability, corrosiveness, total chlorides, BTU value, PCBs, TCLP for heavy metals, and cyanide.

3.13.2.3 Asbestos Certification

Items, components, or materials disturbed by or included in work under this contract do involve asbestos. Other materials in the general area around where work will be performed may contain asbestos. All thermal insulation, in all work areas, should be considered to be asbestos unless positively identified by conspicuous tags or previous laboratory analysis certifying them as asbestos free.

Inadvertent discovery of non-disclosed asbestos that will result in an abatement action requires a change in scope before proceeding. Upon discovery of asbestos containing material not identified in the contract documents, the Contractor shall immediately stop all work that would generate further damage to the material, evacuate the asbestos exposed area, and notify the Contracting Officer for resolution of the situation prior to resuming normal work activities in the affected area.

The Contractor will not remove or perform work on any asbestos containing materials without the prior approval of the Contracting Officer. The Contractor will not engage in any activity, which would remove or damage such materials or cause the generation of fibers from such materials.

Asbestos containing waste shall be managed and disposed of in accordance with applicable environmental law. Asbestos containing waste shall be manifested and the manifest provided to the Contracting Officer.

3.13.2.4 Hazardous Waste Disposal

No hazardous, toxic, or universal waste shall be disposed or hazardous material abandoned on government property. And unless otherwise otherwise noted in this contract, the government is not responsible for disposal of Contractor generated waste material.

The disposal of incidental materials used to accomplish the work including, but not limited to aerosol cans, waste paint, cleaning solvents, contaminated brushes, rags, clothing, etc. are the responsibility of the Contractor. The list is illustrative rather than inclusive.

The Contractor is not authorized to discharge any materials to sanitary sewer, storm drain, or water way or conduct waste treatment or disposal on government property without written approval of the Contracting Officer.

Control of stored waste, packaging, sampling, analysis, and disposal will be determined by the details in the contract. The requirements for jobs in the following paragraphs will be used as the guidelines for disposal of any hazardous waste generated.

a. Responsibilities for Contractor's Disposal

Contractor responsibilities include any generation of WHM/HW requiring Contractor disposal of solid waste or liquid.

(1) The Contractor agrees to provide all service necessary for the final treatment/disposal of the hazardous material/waste in accordance with all local, State and Federal laws and regulations, and the terms and conditions of the contract within sixty (60) days after the materials have been generated. These services will include all necessary personnel, labor, transportation, packaging, detailed analysis (if required for disposal, and/or transportation, including manifesting or completing waste profile sheets, equipment, and the compilation of all documentation is required).

(2) Contain all waste in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, 40 CFR 265, 40 CFR 266, 40 CFR 268, 40 CFR 270, 40 CFR 272, 40 CFR 273, 40 CFR 279, 40 CFR 280, and 40 CFR 761.

(3) Obtaining a representative sample of the material generated for each job done to provide waste stream determination.

(4) Analyzing for each sample taken and providing analytical results to the Contracting Officer. Provide two copies of the results.

(5) Determine the DOT proper shipping names for all waste (each container requiring disposal) and will demonstrate how this determination is developed and supported by the sampling and analysis requirements contained herein to the Contracting Officer.

Contractor Disposal Turn-In Requirements

For any waste hazardous materials or hazardous waste generated which requires the Contractor to dispose of, the following conditions must be complied with in order to be acceptable for disposal:

- (1) Drums compatible with waste contents and drums meet DOT requirements for 49 CFR 173 for transportation of materials.
- (2) Drums banded to wooden pallets. No more than three (3) 55 gallon drums to a pallet, or two (2) 85 gallon over packs.
- (3) Band using 1-1/4 inch minimum band on upper third of drum.
- (4) Recovery materials label located in middle of drum, filled out to indicate actual volume of material, name of material manufacturer, other vendor information as available.
- (5) Always have three to five inches of empty space above volume of material. This space is called 'outage'.

3.13.3 Class I [and II] ODS Prohibition

Class I and II ODS as defined and identified herein will not be used in the performance of this contract, nor be provided as part of the equipment. This prohibition will be considered to prevail over any other provision, specification, drawing, or referenced documents. Regulations related to the protection of stratosphere ozone may be found in 40 CFR 82.

Heating and air conditioning technicians must be certified through an EPA-approved program. Copies of certifications shall be maintained at the employees' place of business and be carried as a wallet card by the technician, as provided by environmental law. Accidental venting of a refrigerant is a release and shall be reported to the Contracting Officer.

3.13.4 Universal Waste/e-Waste Management

Universal waste including but not limited to some mercury containing building products such florescent lamps, mercury vapor lamps, high pressure sodium lamps, CRTs, batteries, aerosol paint containers, electrical equipment containing PCBs, and consumed electronic devices, shall be managed in accordance with applicable environmental law and installation instructions.

3.14 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.

3.14.1 Dirt and Dust Control Plan

Submit truck and material haul routes along with a plan for controlling dirt, debris, and dust on base 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.

3.15 ABRASIVE BLASTING

3.15.1 Blasting Operations

The use of silica sand is prohibited in sandblasting.

Provide tarpaulin drop cloths and windscreens to enclose abrasive blasting operations to confine and collect dust, abrasive, agent, paint chips, and other debris in accordance with the requirements specified. Perform work involving removal of hazardous material in accordance with 29 CFR 1910.

3.15.2 Disposal Requirements

Submit analytical results of the debris generated from abrasive blasting operations per paragraph entitled Laboratory Analysis of this section. Hazardous waste generated from blasting operations will be managed in accordance with paragraph entitled "Hazardous Waste\Debris Management" of this section and with the approved HWMP. Disposal of non-hazardous abrasive blasting debris will be in accordance with paragraph entitled, "Control and Disposal of Solid Wastes".

3.16 NOISE

Make the maximum use of low-noise emission products, as certified by the EPA. Blasting or use of explosives will not be permitted without written permission from the Contracting Officer, and then only during the designated times. Confine pile-driving operations to the period between 8 a.m. and 4 p.m., Monday through Friday, exclusive of holidays, unless otherwise specified.

3.17 MERCURY MATERIALS

Mercury is prohibited in the construction of this facility, unless specified otherwise, and with the exception of mercury vapor lamps and fluorescent lamps. Dumping of mercury-containing materials and devices such as mercury vapor lamps, fluorescent lamps, and mercury switches, in rubbish containers is prohibited. Remove without breaking, pack to prevent breakage, and transport out of the activity in an unbroken condition for disposal as directed. Immediately report to the Environmental Office and the Contracting Officer instances of breakage or mercury spillage. Clean mercury spill area to the satisfaction of the Contracting Officer.

Cleanup of a mercury spill shall not be recycled and shall be managed as a hazardous waste for disposal.

-- End of Section --

SECTION 01 62 35

RECYCLED / RECOVERED MATERIALS

07/06

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)

40 CFR 247

Comprehensive Procurement Guideline for
Products Containing Recovered Materials

1.2 OBJECTIVES

Government procurement policy is to acquire, in a cost effective manner, items containing the highest percentage of recycled and recovered materials practicable consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The Environmental Protection Agency (EPA) has designated certain items which must contain a specified percent range of recovered or recycled materials. EPA designated products specified in this contract comply with the stated policy and with the EPA guidelines. The Contractor shall make all reasonable efforts to use recycled and recovered materials in providing the EPA designated products and in otherwise utilizing recycled and recovered materials in the execution of the work.

1.3 EPA DESIGNATED ITEMS INCORPORATED IN THE WORK

Various sections of the specifications contain requirements for materials that have been designated by EPA as being products which are or can be made with recovered or recycled materials. These items, when incorporated into the work under this contract, shall contain at least the specified percentage of recycled or recovered materials unless adequate justification (non-availability) for non-use is provided. When a designated item is specified as an option to a non-designated item, the designated item requirements apply only if the designated item is used in the work.

1.4 EPA PROPOSED ITEMS INCORPORATED IN THE WORK

Products other than those designated by EPA are still being researched and are being considered for future Comprehensive Procurement Guideline (CPG) designation. It is recommended that these items, when incorporated in the work under this contract, contain the highest practicable percentage of recycled or recovered materials, provided specified requirements are also met.

1.5 EPA LISTED ITEMS USED IN CONDUCT OF THE WORK BUT NOT INCORPORATED IN
THE WORK

There are many products listed in 40 CFR 247 which have been designated or proposed by EPA to include recycled or recovered materials that may be used by the Contractor in performing the work but will not be incorporated into the work. These products include office products, temporary traffic control products, and pallets. It is recommended that these non-construction products, when used in the conduct of the work, contain the highest practicable percentage of recycled or recovered materials and that these products be recycled when no longer needed.

-- End of Section --

SECTION 01 74 19.05 20

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT FOR DESIGN-BUILD
11/07

PART 1 GENERAL

1.1 GOVERNMENT POLICY

Government policy is to apply sound environmental principles in the design, construction and use of facilities. As part of the implementation of that policy the Contractor shall: (1) practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction and demolition waste from landfills and incinerators and to facilitate their recycling or reuse.

1.2 PLAN

A waste management plan shall be submitted within 15 days after notice to proceed and prior to initiating any site preparation work. The plan shall include the following:

- a. Name of individuals on the Contractor's staff responsible for waste prevention and management.
- b. Actions that will be taken to reduce solid waste generation.
- c. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas and equipment to be used for processing, sorting, and temporary storage of wastes.
- d. Characterization, including estimated types and quantities, of the waste to be generated.
- e. Name of landfill and/or incinerator to be used and the estimated costs for use, assuming that there would be no salvage or recycling on the project.
- f. Identification of local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and organizations that accept used materials such as materials exchange networks and Habitat for Humanity.
- g. List of specific waste materials that will be salvaged for resale, salvaged and reused, or recycled. Recycling facilities that will be used shall be identified.
- h. Identification of materials that cannot be recycled/reused with an explanation or justification.
- i. Anticipated net cost savings determined by subtracting Contractor program management costs and the cost of disposal from the revenue generated by sale of the materials and the incineration and/or landfill cost avoidance.

1.3 RECORDS

Records shall be maintained to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. The records shall be made available to the Contracting Officer during construction, and a copy of the records shall be delivered to the Contracting Officer upon completion of the construction.

1.4 DISPOSAL

Except as otherwise specified in other sections of the specifications, disposal shall be in accordance with the following:

1.4.1 Reuse.

First consideration shall be given to salvage for reuse since little or no re-processing is necessary for this method, and less pollution is created when items are reused in their original form. Sale or donation of waste suitable for reuse shall be considered. Salvaged materials, other than those specified in other sections to be salvaged and reinstalled, shall not be used in this project.

1.4.2 Recycle.

Waste materials not suitable for reuse, but having value as being recyclable, shall be made available for recycling whenever economically feasible.

1.4.3 Waste.

Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 78 24.05 20

FACILITY OPERATION AND MAINTENANCE SUPPORT INFORMATION
11/07

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

This section provides the requirements for operation and maintenance support information (OMSI). OMSI contains detailed as-built information describing the efficient, economical and safe operation and maintenance, and repair of the facility. OMSI is provided as hard copy, manuals, .pdf files, and computerized maintenance management system (CMMS) data. The OMSI is to be factual, concise, comprehensive and written to be easily used by maintenance personnel. Descriptive matter and theory must include technical details that are essential for a comprehensive understanding of the operation, maintenance and repair of the system. The OMSI preparer shall ensure that OMSI reflect changes to systems and equipment, made during construction. The words "system", "systems", and "equipment", when used in this document refer to as-built systems and equipment.

1.1.1 Organization of OMSI

Prepare the OMSI in three parts. PART I - Facility Information, PART II - Primary Systems Information, and PART III - Product Data. Cross-referencing within or between OMSI Parts must be specific.

1.1.2 Sources of Data

The sources of data needed to prepare the OMSI include but are not limited to, the design plans and specifications, field visits, approved construction submittals and manufacturer's catalog data for materials, methods, and systems used in this contract.

1.1.3 Not Used

1.1.4 Schedule of Operation and Maintenance Data Packages

Refer to UFGS Section 01 78 23, OPERATION AND MAINTENANCE DATA, located at the website location: <http://www.wbdg.org/ccb> for descriptions of SD-10, Operation and Maintenance Data packages, when referenced in Part 5, PRESCRIPTIVE SPECIFICATIONS, or in other UFGS sections. Submit Operation and Maintenance Manuals in accordance with Section 01 78 24.05 20 FACILITY OPERATION AND MAINTENANCE SUPPORT INFORMATION. When using UFGS Sections that reference 01 78 23, OPERATION AND MAINTENANCE DATA, change reference to 01 78 24.05 20, FACILITY OPERATION AND MAINTENANCE SUPPORT INFORMATION.

1.2 SUBMITTALS

The use of a "G" following a submittal indicates that a Government approval action is required. Submit the following in accordance with

Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES and Section 01 33
00.05 20 CONSTRUCTION SUBMITTAL PROCEDURES.

SD-06 Test Reports

Validation Site Visit and Presentation;G

SD-11 Closeout Submittals

OMSI, Preliminary Submittal;G

OMSI, 100% - Prefinal Submittal;G

OMSI, Final Submittal;G

1.3 SUBMITTAL FORMAT

1.3.1 Hard Copies

Bind the OMSI in durable, hard cover, three-ring, water and grease resistant binders, which hold 8.5" X 11" sheets. Binders shall have clear pockets located on the front and on the spine that hold printed sheets. Parts I, II, and III are separate binders with white, blue, and red spine inserts (respectively). Use high quality paper and dividers of heavy-duty paper with plastic reinforced holes and integrated tabs. Tabs must be of varying size and color to distinguish organization. Use plain tabs to show the UNIFORMAT II number and title in Part III, Product Data. Provide a Master Table of Contents for each OMSI binder. Identify each binder on both the cover insert sheet and the spine insert sheet with the following information:

1. OMSI Part I, II or III with appropriate titles
2. Building Number
3. Project Title
4. Activity and Location
5. Construction Contract Number
6. Prepared For: (Contracting Agency)
7. Prepared By
8. Volume Number - Each binder is a single volume. Number each volume consecutively.

1.3.2 Electronic Format (PDF)

Provide the OMSI on Compact Disk using Adobe Acrobat 5.0 or similar software capable of producing PDF (Portable Document Format) files. The PDF file is duplicate of the hard copy format. The PDF files shall be indexed by part (Facility Information, Primary Systems Information, and Product Data) and each entry identified in the table of contents.

1.4 SUBMITTAL REQUIREMENTS

1.4.1 Preliminary Submittal

Submit the Preliminary submittal when construction is 50% complete. Provide two hard copies to the [Contracting Officer][Navy Technical Representative]. Present the submittal in sufficient detail to evaluate the data collection and arrangement process. One of these copies, reviewed by the [Contracting Officer][Navy Technical Representative], with review comments, will be returned to the Contractor for preparation of the 100% submittal. Include in the submittal, as a minimum, all available Part I, Facility Information; all systems of Part II, Primary Systems Information (at least one system shall be essentially complete and the remaining systems shall be at least 50% complete); and at least two divisions of Part III, Product Data.

1.4.2 100% - Prefinal Submittal

Provide two hard copies to the [Contracting Officer][Navy Technical Representative]. The 100% - Prefinal submittal is due 30 days prior to Beneficial Occupancy Date (BOD). This submittal shall be a complete, working document that can be used to operate and maintain the facility.

1.4.3 Final Submittal

Provide two hard copies and two sets of electronically formatted information to the Contracting Officer 30 days prior to the Beneficial Occupancy Date (BOD). The final submittal is due 90 days after BOD. Include the final submittal in the Construction Schedule.

PART 2 PRODUCTS

2.1 DESCRIPTION OF WORK

2.1.1 OMSI Part I - Facility Information

a. General Facility and System Description - Describe the function of the facility. Detail the overall dimensions of the facility, number of floors, foundation type, expected number of occupants, and facility Category Code. List and generally describe all the facility systems listed in Part II, Primary Systems Information and any special building features (for example, HVAC Controls, Sprinkler Systems, cranes, elevators, and generators). Include photographs marked up and labeled to show key operating components and the overall facility appearance. Include a copy of the final "Completion Certification" which certifies completion and compliance of construction by the Contractor. This documentation will be provided by the Construction Quality Control Manager.

b. Basis of Design - Include the Basis of Design that shows the basic design scope of work, assumptions and the original intentions of the design A/E. Include a copy of the final "Design Quality Control Report Certification" which verifies conformance of the project design to the Request for Proposal. The Design Quality Control Manager or the Designer of Record will provide this documentation.

c. Safety Hazards - List all residual hazards identified in the Requirements Hazard Analysis as prepared by the design A/E. Provide recommended safeguards for each identified hazard.

d. Floor Plans - Provide uncluttered, legible 11" x 17" floor plans. Include only room numbers, type or function of spaces, and overall facility dimensions on the floor plans. Do not include construction instructions, references, frame numbers, etc.

e. Utility Connection and Cutoff Plans - Provide utility site plans and floor plans that indicate the main interior and exterior connection and cutoff points for all utilities. Include enough information to enable someone unfamiliar with the facility to locate the connection and cutoff points. Indicate the room number, panel number, circuit breaker, valve number, etc., of each connection and cutoff point, and what that connection and cutoff point controls. These plans are in addition to Floor plans.

f. Equipment Warranty Tags and Guarantor's Local Representative - Provide with each warranty the name, address, and telephone number of the guarantor's representative nearest to the location where the equipment and appliances are installed. The guarantor's representative, upon request of the station representative, shall honor the warranty during the warranty period, and shall provide the services prescribed by the terms of the warranty. At the time of installation, tag each item of warranted equipment with a durable, oil- and water-resistant tag approved by the Contracting Officer. Attach tag with copper wire and spray with a clear silicone waterproof coating. Leave the date of acceptance and QC's signature blank until project is accepted for beneficial occupancy. Tag shall show the following information:

EQUIPMENT/PRODUCT WARRANTY TAG

Type of Equipment/Product _____
Warranty Period _____ From _____ To _____
Contract No. _____
Inspector's Signature _____ Date Accepted _____

Contractor:
Name: _____
Address: _____
Telephone: _____

Warranty Contact: _____
Name: _____
Address: _____
Telephone: _____

STATION PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE

g. Extended Warranty Information - List and include copies of all warranties for products, equipment, components, and subcomponents whose duration exceeds one year. Cross-reference the list to the warranty copies included in Part III, Product Data. For each warranty listed indicate the applicable specification section, duration, start

date, end date, and the point of contact for warranty fulfillment. Also, list or reference all specific operation and maintenance procedures that must be performed to keep the warranty valid.

h. Equipment and Warranty Tags Listing - Provide a table that lists the major equipment shown on the design equipment schedules and written warranties for equipment/products provided. Show the item descriptions, warranty information, locations, model numbers; and the names, addresses, and telephone numbers of the manufacturers, suppliers, contractor and subcontractors.

i. HVAC Filters - Provide a table that lists the quantity, type, size, and location of each HVAC filter.

j. Floor Coverings, Wall Surfaces, Ceiling Surfaces - Provide a table that lists by room number (including hallways and common spaces), the type, and area of finish. The table will include a facility summary of the total area for each type of space and floor, wall, or ceiling finish.

k. Windows - Provide a table that lists by room number (including hallways and common spaces), the type of window, window size, number of each size and type, and special features. The table will include a facility summary of the total number for each type and size of window.

l. Light Fixtures - Provide a table that lists by room number (including hallways and common spaces), type of light fixture, number of light fixtures, type of bulbs or tubes, and number of bulbs or tubes. The table will include a facility summary of the total number of fixtures of each type and number of bulbs or tubes of each type.

m. Plumbing Fixtures - Provide a table that lists by room number, the number and type of plumbing and bathroom plumbing fixtures (for example, sinks, toilets, urinals, showers and drinking fountains).

n. Roofing - Provide the total area of each type of roof surface and system. Provide the name of the roofing product and system; manufacturer's, supplier's, and installer's names, addresses, and phone numbers. For each type of roof, provide a recommended inspection, maintenance and repair schedule that details checkpoints, frequencies, and prohibited practices. List roof structural load limits.

2.1.2 Part II - Primary Systems Information

OMSI Part II, Primary Systems Information requires using a systems approach. This approach requires that consideration be given to the entire system (that is, the interfaces of equipment, connections and material flow within the system). Use Notes, Cautions and Warnings throughout the Part II, Primary Systems Information to emphasize important and critical instructions and procedures.

OMSI Part II, Primary Systems Information are required for the primary systems listed below;

1. Plumbing systems, including temperature actuated thermostatic water mixing valve

2. HVAC systems, including chillers, boilers, heat pumps, air handling equipment, exhaust fans, fan coil units, VAV boxes, heart recovery wheels, hot and chilled water hydronic systems, control valves, and backflow preventers.
3. Direct Digital Controls/Space Temperature Controls
4. Steam condensate Pumps, Steam PRV valves.
5. Electrical systems, including transformers, diesel electric generator sets, automatic transfer switches, primary switchgear, secondary switchgear, high voltage switches, variable frequency drives, and frequency converters
6. Fire protection systems and fire alarm and detection systems
7. Site mechanical utilities, including cathodic protection
8. Site electrical utilities, including substations, transformers, and pad mounted switchgear

For each system, address;

a. Operation

- (1) System Description - Provide a detailed discussion of the system composition and operation. Include technical details that are essential for an understanding of the system.
- (2) Start-Up and Shutdown Procedures - Provide step by step instructions to bring systems from static to operational configurations and from operating to shutdown status.
- (3) Normal and Emergency Operating Instructions - Provide a discussion of the normal and emergency operation and control of the system. Address operating norms (for example, temperatures, pressures, and flow rates) expected at each zone or phase of the system. Supplement the discussion with control and wiring diagrams and data. Include shutdown instruction for fires, explosions, spill, or other contingencies.
- (4) System Flow Diagrams - Provide a flow diagram indicating system liquid, air or gas flow during normal operations. Integrate all system components into the diagram. A compilation of non-integrated, flow diagrams for the individual system components are not acceptable.
- (5) Diagrammatic Plans - Provide floor plans indicating the location of equipment and configuration of the system installation. Include the configuration of associated piping or wiring. Subordinate structural features to utility features.
- (6) Field Test Reports - Provide Field Test Reports (SD-06) that apply to equipment associated with the system.
- (7) Operator Servicing Requirements - Provide instructions for services to be performed by the operator such as lubrication, adjustments, and inspection.

(8) Valve List - Provide a list of all valves associated with the system. Show valve type, identification number, function, location and normal operating position.

b. Preventive Maintenance- Preventive Maintenance Procedures, and Schedules - Provide Task Card for each individual maintenance task identified on the PM plan and Schedule. Include detailed PM procedures, safety instructions and precautions including lock out/tag out precautions, required skill level, number of personnel needed, frequency, special tools needed, parts needed, and estimated time required to complete the task. Include lubrication schedules indicating types, grades and capacities.

c. Troubleshooting Guides and Diagnostic Techniques - Provide step-by-step procedures for isolating the cause of system malfunctions. The procedures shall clearly state indications or symptoms of trouble; the sequential instructions, including checks and tests to be performed and conditions to be sought, to determine the cause; and remedial measures to bring the equipment and system to operating condition. Identify special test equipment required to perform the procedures. Start the troubleshooting guide at the system level and proceed to a level where detailed manufacturer's troubleshooting procedures for equipment and components can be referenced. Provide clear references to repair procedures included in Part III, Product Data.

2.1.3 PART III - Construction Submittals

This portion of the OMSI manual provides a record of the as-built products, materials, and equipment used in Part 4, PERFORMANCE TECHNICAL SPECIFICATIONS, and Part 5, PRESCRIPTIVE SPECIFICATIONS, of the Request for Proposal (RFP). This submittal includes a complete copy of the approved construction submittal used in the facility construction. Include, as a minimum, O&M Data, Materials, Equipment, Data Sheets, Test Reports, Warranties, Certificates, and Shop Drawings.

PART 3 EXECUTION

3.1 VALIDATION AND PRESENTATION

Provide a validation presentation of the OMSI Prefinal submittal to the users and field verify the OMSI's completeness and accuracy. Perform the validation site visit at the 100% - Prefinal OMSI submittal stage. Contact the [Contracting Officer][Navy Technical Representative] for the exact date.

The Designer Quality Control (DQC) manager shall attend and provide a certifying statement that validation site visit and presentation is complete.

-- End of Section --