Kodiak Repair Windows at Guest House (Building #30) and Rec Center (Building #2)

Base Kodiak, Alaska

Project No. 15701926

Specification

Final Submittal

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SECTION 01 11 00

SUMMARY OF WORK
11/21

PART 1 GENERAL

1.1 CONTRACTING OFFICER'S AUTHORITY

In no event shall any understanding or agreement between the Contractor and any Government employee other than the Contracting Officer on any Contract, modification, change order, letter or verbal direction to the Contractor be effective or binding upon the Government. All such actions must be formalized by a proper contractual document executed by an appointed Contracting Officer. In the event a Government representative other than the Contracting Officer directs a change in the Work to be performed, or increases the Scope of the Work to be performed, it is the Contractor's responsibility to make inquiry to the Contracting Officer before making the deviation. Payments will not be made without being authorized by an appointed Contracting Officer with the legal authority to bind the Government.

The Contracting Officer may designate in writing a Contracting Officer's Representative (COR) to act on the Contracting Officer's behalf in certain technical areas. A copy of such designation will be provided to the Contractor.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

1.2.1 Project Description

The Work includes corner window and flashing installation at Building #30/Guest House. Optional Bid Item 1 includes vertical corner window and flashing installation at the stairwell of Building #2/Recreation Center. Optional Bid Item 2 includes demolition and new fixed double hung windows at the Youth Area of Building #2/Recreation Center.

1.2.2 Location

The Work is located at U.S. Coast Guard Base Kodiak. The exact location will be shown by the Contracting Officer.

1.2.3 Applicable Codes and Regulations

The following provides a general summary of the codes and regulations applicable to this Project, but is not intended to be a comprehensive list of all applicable codes, standards, and regulatory requirements this Project shall comply with. Refer to the Reference article of each section included in these Specifications and comply with **ALL** requirements specified. Unless specifically noted otherwise or directed otherwise by the Contracting Officer, use the most recent version of each code listed below:

a. International Building Code (ICC IBC)

b. ASCE 7-16

c. OSHA Occupational Safety and Health Standards (29 CFR 1910)

d. OSHA Safety and Health Regulations for Construction (29 CFR 1926)

e. National Fire Code (NFPA 1)

f. National Life Safety Code (NFPA 101)

1.3 REFERENCES

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

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.236-7	Permits and Responsibilities
FAR 52.236-9	Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements
FAR 52.236-21	Specifications and Drawings for Construction

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 7-16	(2017; Errata 2018; Supp 1 2018) Minimum Design Loads and Associated Criteria for Buildings and Other Structures

CITY OF KODIAK (KODIAK)

KODIAK SCSSD	City of Kodiak Standard Construction Specifications & Standard Details - 2012 Edition
KODIAK CC TITLE 14	City of Kodiak City Code Title 14 - Buildings and Construction

INTERNATIONAL CODE COUNCIL (ICC)

ICC IBC	(2018) International Building Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 1	(2018) Fire Code
NFPA 101	(2018; TIA 18-1; TIA 18-2; TIA 18-3) Life Safety Code

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

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction

1.4 DEFINITIONS AND ABBREVIATIONS APPLICABLE TO SPECIFICATIONS

Definitions specific to certain sections are further defined in their respective sections. Unless specifically noted otherwise or defined by a different Specification Section, the following words and abbreviations have the general meaning defined below for the technical portions of the Work:

Architect-Engineering (A/E and AE) Firm: The firm responsible for preparing Construction Contract documents (drawings and technical specifications) and serving as the Designer of Record (DOR).

As-Built Drawings: As-Built Drawings are developed and maintained by the Contractor and depict actual conditions, including deviations from the Contract Documents. These deviations and additions may result from coordination required by, but not limited to: Contract modifications; official responses to Contractor submitted Requests for Information; direction from the Contracting Officer; designs which are the responsibility of the Contractor, and differing Site conditions. Maintain the as-builts throughout construction as red-lined hard copies on-site and red-lined PDF files. These files serve as the basis for the creation of the Record Drawings.

Base Kodiak Facilities Engineer (FE): The local Installation personnel responsible for management of Systems. In some cases, the Contracting Officer may designate a FE to review, oversee, approve certain aspects of the Work such as Operation and Maintenance manuals and Training.

Civil Engineering Unit (CEU): The U.S. Coast Guard Civil Engineering Unit detachment. For U.S. Coast Guard District 17 projects, assume this is CEU Juneau.

Contract: The term "Contract" refers to the binding agreement between the Government and the Contractor and all associated and referenced documents including but not limited to Task Orders, Drawings, Specifications, Amendments, Modifications, and Addenda.

Contracting Officer (KO): The Government official having overall authority for administrative contracting actions. Certain contracting actions may be delegated to the Contracting Officer's Representative (COR).

Contractor (KR): The primary firm or group responsible for execution of the Work.

Contractor's Quality Control (QC) Manager: An individual retained by the Prime Contractor and qualified in accordance with the Section 01 45 00 QUALITY CONTROL having the overall responsibility for the Contractor's QC organization.

Day(s): Calendar day(s), unless otherwise indicated.

Designer of Record (DOR): A registered design professional employed by the Government responsible for the overall design and review of submittal documents prepared by others. The DOR is registered or licensed to practice their respective design profession as defined by the statutory requirements of the professional registration laws in state in which the design professional works. The DOR is also

referred to as the Engineer of Record (EOR) in design code documents.

FDCC: The U.S. Coast Guard Facilities Design & Construction Center. For U.S. Coast Guard District 17 projects, assume this is FDCC Seattle.

Foreign object debris (FOD): An object, live or not, located in an inappropriate location which has the capacity to cause injury or damage equipment or assets. Control of FOD is of particular importance for Work that occurs on or near airfields and in proximity to aircraft.

Furnish: To supply and deliver to the Site, to unload and unpack ready for assembly, installation, testing, and start-up.

Government: The agency (and their Facility Partners) serving in capacity as the Owner or Client. For U.S. Coast Guard projects, assume the term "Government" indicates U.S. Coast Guard (USCG).

Government Contracting Officer's Representative (COR): A representative appointed by the Contracting Officer to oversee specific aspects of the Contract and Work.

Government Construction Project Manager (CPM or CI): In some cases the Government may appoint a separate person (other than the COR) to oversee the Work.

Indicated: Used to direct the Contractor to information contained on the Drawings or in the Specifications. Terms such as "shown," "noted," "scheduled," "specified," and "defined" also may be used to assist in locating information but no limitation of location is implied or intended.

Install: Defines operations at the Site including assembly, erection, placing, anchoring, applying, shaping to dimension, finishing, curing, protecting, and cleaning, ready for the U.S. Coast Guard use.

Installation: When used to indicate a location, the term "Installation" is defined as the site owned or operated by the U.S. Coast Guard where the Project Work will occur. As used by these Project Specifications, "Installation" refers to U.S. Coast Guard Base Kodiak.

Installer: Defines a person or firm engaged by the Contractor or any subcontractor to execute a specific portion of the Work.

Personal Protective Equipment (PPE): Refers to protective clothing, helmets, goggles or other garments and equipment designed to protect the wearer from injury.

Project: The Contracted Work to be performed.

Provide: To furnish and install, ready for intended use.

Quality Assurance (QA): The systems and methods employed by the Government as required to ensure the Work is executed per the Contract and applicable standards.

Quality Control (QC): The systems and methods employed by the Contractor as required to ensure the Work is executed per the Contract

and applicable standards.

Record Drawings: The Record Drawings are the final compilation of actual conditions reflected in the As-Built Drawings.

Request for Information (RFI): Request provided by the Contractor to the Government to clarify requirements of the Contract documents.

Subcontractor: Defines a person or firm engaged by the prime Contractor or any of their subcontractors.

United States Coast Guard (USCG): The U.S. Coast Guard, this term is used interchangeably with "Government" in these Specifications.

Work: The term "Work" refers to all aspects of the Project.

1.5 ITEMS FURNISHED TO THE CONTRACTOR

1.5.1 Drawings:

One complete set of Contract Drawings and maps will be furnished to the Contractor in PDF and CAD, ".dwg" file formats. Reference publications will not be furnished.

Immediately check furnished Drawings and notify the Government of any discrepancies.

1.5.2 Specifications:

One electronic copy of complete Contract Specifications and U.S. Coast Guard forms will be furnished to the Contractor in PDF file format. Reference publications will not be furnished.

Immediately check furnished documents and notify the Government of any discrepancies.

1.5.3 Referenced Publications:

A complete list of sources for referenced publications may be found under Section 01 42 00 SOURCES FOR REFERENCE PUBLICATIONS. Publications incorporated into the technical provisions by reference will not be provided by the Government. Contractor shall be responsible for providing references at the Project Site when necessary for clarification, or if required for reference to assist with Quality Control.

1.6 CONTRACTOR RESPONSIBILITY

This Contract contains prescriptive criteria. The subsequent construction shall incorporate all ancillary components as necessary to provide a complete and functional facility for the intended purpose.

Where direction is given, it is directed to the Contractor. In each case the meaning is as though written "the Contractor shall."

1.7 CONFLICTS

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

a. Any portions of the accepted proposal which both conform to and exceed the requirements of the solicitation.

b. The provisions of the solicitation.

c. All other provisions of the accepted proposal.

d. Any design products including, but not limited to, Plans, Specifications, Engineering Studies and Analyses, Shop Drawings, and Equipment Installation Drawings. These are "deliverables" under the Contract are not part of the Contract itself. Design products must conform to all provisions of the Contract, in the order of precedence.

Where Specifications or standards documents are referenced in these Contract documents, they apply as if they were incorporated into the Contract, except if specifically noted otherwise. If there are differences between referenced documents and any Contract documents see FAR 52.236-21 and notify the Contracting Officer of any discrepancies.

When a number is suffixed to a referenced Federal or Military Specification or standard, it denotes the effective amendment(s) or change to the document.

1.8 GENERAL WORKING CONDITIONS

Working conditions for this Work are based on typical weather information and established engineering data as follows; the Contractor shall verify actual conditions based on established databases (e.g., ASCE 7-16, National Weather Service, NOAA, etc.). The following information is intended to provide a Project baseline for preliminary scheduling and design considerations. The following information should **NOT** be used for final design or materials/installation requirements. The following also includes weather data reflecting established normals, the weather data listed below is not intended reflect record extremes (e.g., record high/low temperatures). Contractor shall verify actual conditions and refer to the Technical Specifications for design and materials/installation requirements.

1.8.1 Wind

1.8.1.1 Prevailing Wind

Prevailing wind information is based on data as published by Iowa State University's Iowa Environmental Mesonet at https://mesonet.agron.iastate.edu/sites/locate.php?network=AK_ASOS, select a station and then select the "Wind Rose" tab.

Northwest at 9.5 knots (11 MPH)

1.8.1.2 Design Wind Speed

Design wind speed shall be per ASCE 7-16.

a. Risk Category II: 165 MPH

b. Risk Category III: 175 MPH

c. Risk Category IV: 180 MPH

1.8.2 Temperature and Precipitation

Temperature and precipitation data is based on 1981-2010 Normals (latest available three-decade averages) as published by NOAA National Climate Data Center (NCDC): https://www.ncdc.noaa.gov/cdo-web/datatools/normals. The values indicated are the average of all available stations' reported data in the general vicinity of the Project Site.

1.8.2.1 Temperature

a. Maximum Temperature: 61.2 Degrees F

b. Minimum Temperature: 26.4 Degrees F

c. January Average Mean Temperature: 30.8 Degrees F

d. July Average Mean Temperature: 54.5 Degrees F

1.8.2.2 Precipitation

1.8.2.2.1 Annual Precipitation

a. Average Annual Precipitation: 78.04 Inches

b. Maximum Annual Precipitation: 106.25 Inches

1.8.2.2.2 60 Minute Duration Rainfall Rates

a. 25 Year Normal: .69 Inch/Hour

b. 100 Year Normal: .87 Inch/Hour

1.8.3 Snow and Frost Data

1.8.3.1 Snow Loads

Snow loads indicated are based on ICC IBC, ASCE 7-16, and data available from the City of Kodiak (see KODIAK CC TITLE 14).

a. Ground Snow Load: 40 PSF

b. Roof Snow Load: Roof snow loads shall be calculated per ICC IBC and ASCE 7-16, also refer to KODIAK CC TITLE 14 for additional requirements.

1.8.3.2 Frost Protection

General frost protection information is provided below for water lines and is based on the minimum requirements of local building codes and city standards. **ALWAYS** verify required coverage for all items. The following is not intended to provide general coverage requirements for building structures (e.g., footings and foundations). Coverage requirements may also vary depending on the the type of utility and service.

Frost Protection: 6 FT Cover minimum, also refer to KODIAK SCSSD and KODIAK CC TITLE 14 for additional requirements.

1.8.4 Seismic Design Criteria

Seismic Design Criteria shall be per ASCE 7-16. Seismic Site Class and Soil Classification must be determined and confirmed by a Geotechnical Engineer prior to design. The following information provides the Seismic Design Category values based on ASCE 7-16. The following values should be verified and then used to help determine the Seismic Site Class and Soil Classification which establish minimum Project requirements.

a. S_S: 1.500

b. S_1: 0.904

1.9 SITE VISITS

When a formal Site visit is planned, it will be listed in the Task Announcement. Prebid/informal site visits are optional, at the Contracting Officer's discretion, and the Contractor shall be responsible for all expenses.

1.10 OCCUPANCY OF PREMISES

See section 01 14 00 WORK RESTRICTIONS for Work requirements in occupied facilities.

1.11 EXISTING WORK

In addition to FAR 52.236-9 Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements:

a. Remove or alter existing Work in such a manner as to prevent injury or damage to any portions of the existing Work which remain.

b. Repair or replace portions of existing Work which have been altered during construction operations to match existing or adjoining Work, as approved by the Contracting Officer. At the completion of operations, existing Work must be in a condition equal to or better than that which existed before new Work started.

1.12 PERMITS

Contractor's responsibility for permits is discussed in FAR 52.236-7 Permits and Responsibilities. In addition, the Contractor shall pay for and obtain all temporary permits for construction of this Contract Work. The Contractor shall comply with all terms and conditions of permits, whether the Contractor or the Government obtains the permit.

1.13 LOCATION OF UTILITIES

Locations of existing utilities indicated on site surveys, utility maps, and other Drawings are approximate only. The Government is not responsible for the accuracy of the information provided.

Contractor shall be responsible for locating and marking **ALL** utilities within the limits of construction and shall comply with State and local requirements for locating and marking underground utilities.

Contractor shall field verify accuracy of all existing utility locations whether shown or not on the Contract Drawings, within the Area of Work.

Contractor shall contact commercial utility companies direcly and the Contracting Officer to obtain all utility information (e.g., seam, potable water, deluge, sanitary sewer, power, telephone, cable TV, etc.).

PART 2 PRODUCTS

2.1 GENERAL

All products incorporated into this Work shall be brand new unless specifically indicated otherwise in the Project Drawings or the following technical Specification sections. The Contracting Officer shall have the authority to reject any defective or non-complying products.

Where not specifically indicated, the Contractor is responsible for determining or estimating the types, sizes, and quantities of products needed to complete all Work required in the Project Drawings and Specifications.

2.2 MANUFACTURER'S INSTRUCTIONS

Particular items and products specified in the sections are to be provided and/or installed according to the manufacturer's printed instructions. For bidding and Contract performance purposes, the Contractor is deemed to be aware of the requirements of these instructions.

2.3 COMMERCIAL AND LOCALLY AVAILABLE PRODUCTS

To facilitate economic life-cycle maintenance by the Government, products supplied for the Contract shall be commercially available products; available through normal Alaska based suppliers or distributers.

2.4 INSTALLATION PRIOR TO APPROVAL

Where the Specifications require product submittals, the installation of products prior to submittal approval by the Contracting Officer shall be sufficient justification for removal of the products as directed by the Contracting Officer.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 14 00

WORK RESTRICTIONS
11/21

PART 1 GENERAL

1.1 WORK COVERED

This section lists the minimum constraints and phasing requirements you must incorporate into your schedule and Work activities. Standard constraints and phasing requirements to incorporate into the schedule and Work activities are described below. Additional provisions may be specified in other sections of the Contract.

1.2 REFERENCES

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

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.204-2	Security Requirements
FAR 52.223-3	Hazardous Material Identification and Material Safety Data
FAR 52.236-6	Superintendence by the Contractor
FAR 52.249-10	Default (Fixed-Price Construction)

1.3 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

List of Contract Personnel

Vehicle List

Notices To Contracting Officer

1.4 SPECIAL SCHEDULING REQUIREMENTS

a. The Guest House/Building #30 and Recreation Center/Buidling #2 will remain in operation during the entire construction period. The Contractor must conduct his operations so as to cause the least possible interference with normal operations of the activity.

1.4.1 Notices to Contracting Officer

Unless otherwise indicated in other sections, notify the Contracting Officer of the actions as listed below. This list is intended to cover the most common requirements for notifications, but all notifications are not limited to these items.

Mobilization: Provide written notice to the Contracting Officer that you intend to mobilize to the Site 14calendar days prior to mobilization.

Start of Work: The Contractor shall provide the Contracting Officer with a minimum 14 calendar days advance written notice prior to the start of Work at the Project Site. This includes recommencement of Work.

Digging Permit: The Contractor shall be responsible for locating all utilities in accordance with Section 01 11 00 SUMMARY OF WORK and obtain a digging permit before any excavation or digging activities. Permits will be approved by the Contracting Officer. Submit the digging permit application at least 72 hours before digging is scheduled to commence. After a digging permit has been obtained, Contractor shall submit a written notification to the Contracting Officer with the approved digging permit attached, at least 24 hours in advance of the time digging is scheduled to commence

Hot Work Notification: Notify Contracting Officer in accordance with Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

Utility Outages and Shutdowns: Request utility outages and shutdowns in accordance with Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS. The Contractor shall be required to coordinate outages at the convenience of the Government. Outages will be approved by the Contracting Officer.

Road Blockage: Request blockage of roads at least 15 days in advance of intended shutdown. The Contractor shall be required to coordinate road closures at the convenience of the Government. Road closures will be approved by the Contracting Officer. See Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS for additional requirements.

Stop Work: Provide formal written notice to the Contracting Officer at least 24 hours in advance of any planned or intended Work stoppage, shutdowns, demobilization, or delays in the progress schedule from either the Contractor's workforce or any subcontractor.

Subcontractor Arrival: Notify the Contracting Officer at least 24 hours in advance of the arrival of subcontractor(s) to the Project Site.

Delivery of Materials: Notify the Contracting Officer at least 24 hours in advance of the arrival of materials to the Project Site that will require expedient inspection and acceptance by the Government prior to their incorporation into the Work.

Inspection and Testing: Unless specified otherwise, notify the Contracting Officer at least 24 hours in advance of the requirement for inspection of a critical job element and/or performance of formal testing as required herein. Refer to Section 01 45 00 QUALITY CONTROL for the requirements pertaining to inspections and testing.

Superintendence: In accordance with Section 01 30 00 ADMINISTRATIVE REQUIREMENTS and as required by FAR 52.236-6, the Contractor is required to appoint a superintendent for this Work that will be responsible for the on-site supervision and management of the Contractor's workforce on a daily basis. The superintendent, or a Contracting Officer approved alternate, shall be physically present at

the Project Site for the duration of Work, and readily accessible by the Contracting Officer. Changes in superintendence will only be accepted by written notification to the Contracting Officer.

Completion: Provide written notice of completion to the Contracting Officer 30 calendar days prior to completion of the each facility. Completion shall include completion of all testing balancing and commissioning and all interior components of the facility including approved O&M manuals.

1.4.2 Preliminary Work

In order to accomplish the Work with the minimum impact to U.S. Coast Guard operations, preliminary Work as follows must be completed prior to any demolition and/or construction of the new structures and supporting facilities.

a. Submit a Construction Phasing Plan 14 work days prior to the Pre-construction meeting to show understanding of the constraints outlined in this Section.

b. Provide a video survey of the entire Project Site documenting existing conditions prior to the start of any on-site Work, other than design activities. Submit 1 copy to the Contracting Officer.

c. Furnish & Install Construction Trailer and all supporting equipment and utilities, prior to any other Work on-site. Reference Section 01 50 00 Temporary Construction Facilities and Controls for trailer details.

d. Provide written notice to the Contracting Officer of mobilization 14 days prior to the start of mobilization.

1.5 WEATHER

See section 01 11 00 SUMMARY OF WORK for General Working Conditions. The information provided is based on established data and establishes a basic understanding of the typical climatic conditions the Contractor should expect at the Project Site. Verify data provided and coordinate with the Contracting Officer to establish a Project baseline for scheduling purposes.

1.5.1 U.S. Coast Guard Condition of Readiness

U.S. Coast Guard will set the Condition of Readiness based on the weather forecast for sustained winds 50 knots (60mph or 95 km/hr) or greater. Contact the Contracting Officer for the current Condition of Readiness setting.

Monitor weather conditions a minimum of twice a day and take appropriate actions according to the approved Emergency Plan in the accepted Accident Prevention Plan per Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS and the instructions below.

Unless otherwise directed by the Contracting Officer, comply with:

a. Condition FOUR (Sustained winds of 50 knots or greater expected within 72 hours): Normal daily jobsite cleanup and good housekeeping practices. Collect and store in piles or containers scrap lumber,

waste material, and rubbish for removal and disposal at the close of each work day. Maintain the Project Site including storage areas, free of accumulation of debris. Stack form lumber in neat piles less than 4 feet high. Remove all debris, trash, or objects that could become missile hazards.

b. Condition THREE (Sustained winds of 50 knots or greater expected within 48 hours): Maintain "Condition FOUR" requirements and commence securing operations necessary for "Condition ONE" which cannot be completed within 18 hours. Cease all routine activities which might interfere with securing operations. Commence securing and stow all gear and portable equipment. Make preparations for securing buildings. Review requirements pertaining to "Condition TWO" and continue action as necessary to attain "Condition THREE" readiness.

c. Condition TWO (Sustained winds of 50 knots or greater expected within 24 hours): Curtail or cease routine activities until securing operation is complete. Reinforce or remove form work and scaffolding. Secure machinery, tools, equipment, materials, or remove from the Project Site. Expend every effort to clear all missile hazards and loose equipment from general base areas.

d. Condition ONE. (Sustained winds of 50 knots or greater expected within 12 hours): Secure the Project Site, and leave Government premises.

1.5.2 Unfavorable Weather

Delays caused by unusually severe weather (FAR 52.249-10). Unusually severe weather will be considered unforeseeable and unusually severe if it is more severe than the statistical average for the appropriate weather parameters established by the National Weather Service and as provided in section 01 11 00 SUMMARY OF WORK.

During unfavorable weather, the Contractor shall proceed with only those portions of the Work that may be undertaken safely and without adversely affecting quality. The Contracting Officer shall have the authority for determining which Work will be adversely affected by unfavorable weather.

Should warnings of severe weather be issued, the Contractor shall take every practical precaution to minimize danger to persons, the Work, and to adjacent property. Precautions shall include, but not limited to, closing all openings, removing all loose material, tools and equipment from exposed locations, and removing or securing scaffolding and other temporary Work.

If any part of this Project is pursued during periods of cold or inclement weather, the Contractor shall take all appropriate precautions to protect facilities and Work involved in the Project Scope of Work from damage by cold/or inclement weather. The Contractor shall be responsible for snow removal around Project Site, parking areas, and thoroughfares.

1.6 CONTRACTOR ACCESS AND USE OF PREMISES

1.6.1 U.S. Coast Guard Installation Regulations

Ensure that Contractor personnel employed for the Work become familiar with and obey U.S. Coast Guard Installation regulations including safety,

fire, traffic and security regulations. Keep within the limits of the Work and avenues of ingress and egress. Wear appropriate personal protective equipment (PPE) in designated areas. Do not enter any restricted areas unless required to do so and until cleared for such entry. Mark Contractor equipment for identification.

1.6.1.1 List of Contract Personnel

14 days prior to the commencement of Work, submit to the Contracting Officer a complete List of Contract Personnel of the Contractor and subcontractors including names, ages, addresses, telephone numbers for use in the event of an emergency, driver's license/identification card numbers, and expected on-site duration.

As changes occur and additional information becomes available, correct and change the information contained in previous lists. For any additional personnel identified throughout the performance of this Project, submit the above information a minimum of 7 days prior to the personnel arriving.

1.6.1.2 Emergency Contacts

Maintain an after-working hours contact point, and provide the Contracting Officer with a telephone number, so that the Government may contact the Contractor at any time in case of emergency.

1.6.1.3 No Smoking Policy

Smoking is prohibited within and outside of all buildings on installation, except in designated smoking areas. This applies to existing buildings, buildings under construction and buildings under renovation. Discarding tobacco materials other than into designated tobacco receptacles is considered littering and is subject to fines. The Contracting Officer will identify designated smoking areas.

1.6.2 Working Hours

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

No Work requiring Government coordination (including but not limited to moving vehicles, aircraft, or other equipment) or inspection Work is allowed on weekends or Federal holidays.

1.6.3 Work Outside Regular Hours

Work outside regular working hoursincluding Work to support outages, requires Contracting Officer approval. Make application 15 calendar days prior to such Work to allow arrangements to be made by the Government for inspecting the Work in progress, giving the specific dates, hours, location, type of Work to be performed, Contract Number and Project Site. Based on the justification provided, the Contracting Officer may approve Work outside regular hours. During periods of darkness, the different parts of the Work must be lighted in a manner approved by the Contracting Officer.

If the Contractor desires to consistently work outside of regular hours, a formal written request shall be made to the Contracting Officer 7 days in advance. Requests to work outside regular working hours may be granted at the convenience of the Government.

1.6.4 Occupied and Existing Facilities

The Contractor will be working in existing buildings which are occupied.

Before Work is started, arrange with the Contracting Officer a sequence of procedure, means of access, space for storage of materials and equipment, and use of approaches, corridors, and stairways.

The existing buildings and their contents must 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 during the construction period.

The Government will remove Government property in the areas of the buildins scheduled to receive Work.

1.7 SECURITY REQUIREMENTS

Contract Clause FAR 52.204-2 Security Requirements and Alternate II and the following apply:

Coordinate with U.S. Coast Guard Base Kodiak Military Police for Base access for personnel, equipment and vehicles.

1.7.1 Personnel List

Contractor's superintendent shall keep a daily sign in log for all staff and all subcontractors and visitors on this Contract. The list shall match the List of Contract Personnel and may be reviewed periodically by the Contracting Officer, people not on the list shall be removed from the Site.

1.7.2 Base Access

Base Kodiak is a Federal facility. All personnel visiting the Site will be required to present Real ID Act compliant valid picture identification. (Note: Not all state issued drivers licenses are Real ID Act compliant. Inform your employees and subcontractors and delivery personnel as needed to avoid being denied entry). All personnel working on the Project Site must be legal to work in the United States of America and obtain a RapidGate identification (ID). Confirm Base Security office hours with local Base.

Any personnel without a RapidGate ID will require an escort; escorts can only be current or retired DHS or military personnel with a valid RapidGate ID. Escorts will not be provided by the Government. Any personnel without a RapidGate ID will only be allowed on base three times a month. All vehicles entering the Site must present and carry proof of insurance at all times. Provide a written list of expected workers with their driver's license/identification card numbers and expected on-site duration to the Contracting Officer a minimum of 14 days prior to the personnel arriving.

All personnel shall carry proper ID when on-site. Proper ID is defined as either the individual's driver's license, or state federal picture ID or Passport compliant with Real ID Act. The identification must be

laminated, and show a facial picture of the individual. Individuals without proper ID will be escorted off the U.S. Coast Guard premises.

1.7.3 Vehicle List

Contact the Contracting Officer regarding regulations concerning vehicle passes. Furnish a complete list of over-the-road vehicles and construction equipment to the Contracting Officer. The list shall include the make, model, year built, and identifying marks.

All vehicles entering the Site must present and carry proof of insurance at all times.

1.8 SHIPMENT AND STORAGE OF MATERIALS AND EQUIPMENT

1.8.1 Shipment of Materials and Equipment

The Contractor is responsible for the transportation and receipt of all of materials, equipment and tools required for the completion of the Work of this Contract.

All shipment of materials, equipment and/or supplies by the Contractor to the Project Site shall be addressed to the Contractor, not to the Government. The Contractor must be on hand to accept shipments; the Government will not accept shipments.

Deliver products and materials in manufacturer's original unopened packages or containers bearing manufacturer's labels.

All loads shall be covered and secured in accordance with State of Alaska regulations. Any trucks found in violation of this requirement may be banned from accessing the Base, Installation, and/or Project Site.

All materials and equipment subject to damage during transportation, including but not limited to discoloring or deterioration from the elements, shall be shipped in weather tight enclosures. Provide ventilation to avoid condensation. Maintain temperature and humidity within the ranges stated in the manufacturer's printed instructions.

Hazardous material shipment and identification requirements shall be in accordance with Sections 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS, and 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS, and as stated in FAR 52.223-3.

1.8.2 Storage of Materials and Equipment

Provide storage area(s) in accordance with Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS.

Products delivered to the Project Site shall be the same as those indicated in approved submittals, do not store products on the Project Site that are not to be incorporated into the Work. Take care to prevent damage to approved products and provide storage in accordance with standard manufacturer's recommendations and as stipulated in the technical Specification sections.

There should be no expectation of security for the Contractor's materials. The Contractor shall be fully responsible for the security of all stored material and equipment, and shall erect temporary barriers to demark their Work/storage areas or other security measures he deems

necessary, at his expense and in accordance with Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS. The Contractor shall be responsible for providing additional covered storage for materials, at his expense. Any fencing installed in existing paved areas shall be surface mounted and weighed down for FOD countermeasures.

Provide FOD countermeasures on all aspects of your Work. Good control of all material shall be implemented and nothing that wind or rain can displace shall be left on-site. Materials left on-site shall be secured, covered or tied down, to implement FOD control.

Store materials and equipment subject to damage, discoloring, and/or deterioration from the elements in weather tight enclosures. Provide ventilation to avoid condensation. Maintain temperature and humidity within the ranges stated in the manufacturer's printed instructions.

Store fabricated products off the ground on platforms, blocking, or skids.

Store loose granulated material on solid surfaces such as paving, plywood, or sheet material to prevent mixing with foreign matter. Provide drainage to prevent ponding of rainwater. Prevent mixing of materials.

Runoff from stored metal materials is prohibited. All metal materials (iron, sheet metal, building components), shall be tarped when not actively loading/unloading, to prevent rain/runoff of metals to Base Kodiak's Installation's stormwater collection systems.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES
11/21

PART 1 GENERAL

1.1 WORK COVERED

This section includes the general requirements of the Contractor pertaining to preparation of Schedule of Prices and the submission of payment requests.

1.2 REFERENCES

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

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 32.503-6	Suspension or Reduction of Payments
FAR 52.232-5	Payments Under Fixed-Price Construction Contracts
FAR 52.232-27	Prompt Payment for Construction Contracts

1.3 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Schedule of Prices

1.4 SCHEDULE OF PRICES

1.4.1 Data Required

Provide a detailed breakdown of the Contract price, giving quantities for each of the various kinds of Work, unit prices, and extended prices. Costs shall be summarized and totals provided for each construction category. Within 15 calendar days of notice of award, prepare and deliver to the Contracting Officer a Schedule of Prices(Construction Contract) as directed by the Contracting Officer. Schedule of Prices must have cost summarized and totals provided for each construction category.

The Schedule of Prices shall be prepared in conjunction with the development Project Schedule Baseline. Prepare and deliver to the Contracting Officer a Schedule of Prices in the format indicated. Provide a detailed breakdown of the Contract price, giving quantities for each of the various kinds of Work, unit prices and extended prices thereof. No payments can be made until the Schedule of Values has been approved by the Contracting Officer.

a. Final Inspection Reports 1% of Contract Cost

b. Complete and accurate Shop Drawings and As-Built Drawings 2% of Contract Cost

c. Operating And Maintenance Manuals 2% of Contract Cost

1.4.2 Schedule Instructions

Payments will not be made until the Schedule of Prices has been submitted to and accepted by the Contracting Officer. Schedule of Prices must identify the cost for Site Work, and include incidental Work to the 5 ft line. Identify costs for the building(s), and include Work out to the 5 ft line. Work out to the 5 ft line shall include construction encompassed within a theoretical line 5 ft from the face of exterior walls and shall include attendant construction, such as pad mounted HVAC cooling equipment, cooling towers, and transformers placed beyond the 5 ft line.

1.4.3 Format

Only computer generated schedules are acceptable. Contractors may submit cost proposals utilizing their own format unless a specific format is requested by the Contracting Officer.

Unless otherwise directed by the Contracting Officer, itemize every cost proposal submitted under this Contract as outlined in this paragraph. Costs of material, labor, equipment, subcontracts, overhead, and profit must be separately itemized for each distinct category of Work. The number of line items listed shall be left to the discretion of the Contractor, except that at least one item shall be listed for each Work activity listed in the Project Schedule.

Include necessary supporting documentation, invoices, etc. as attachments. For proposals involving time extensions due to Government-caused delays, include an analysis of the impact of the delay and an adjusted progress schedule.

The prices used in the Schedule of Prices shall be "loaded prices" including any applicable overhead, profit, labor burden, bonding, insurance, etc. The sum of all prices listed on the schedule shall match exactly the total Contract price to date.

1.4.3.1 Modifications

Contract modifications added to the Contract after approval of the original Schedule of Prices shall be included as separate line items on the bottom of the approved Schedule of Prices and incorporated in the next payment request. Resubmission of the Schedule of Prices due to Contract modification will not be required.

1.4.3.2 Prohibitions

The cost associated with individual line items shall accurately relate to the Work activity to which it is related. Front loading of the schedule in order to receive a disproportionate payment for Work early in the Contract shall result in disapproval of the Schedule of Prices.

1.5 CONTRACT MODIFICATIONS

Cost Proposals for Modifications: Itemize every cost proposal submitted

as outlined in this paragraph. Costs allocable to material, labor, equipment, subcontractors, overhead, bonding, insurance and profit must be separately itemized for each distinct category or item of Work encompassed. Include documentation such as invoices, quotes, vendor estimates, or other supporting cost figures. Clearly state in the proposal if an extension in the performance period is required. For proposals involving time extensions, include rationale for the extension and a proposed adjusted Project Schedule.

Each executed Contract modification shall be added to the end of the approved Schedule of Prices.

1.6 CONTRACTOR'S INVOICE AND CONTRACT PERFORMANCE STATEMENT

1.6.1 Content of Invoice

Requests for payment will be processed in accordance with the Contract Clause FAR 52.232-27 Prompt Payment for Construction Contracts and FAR 52.232-5 Payments Under Fixed-Price Construction Contracts. Each request for payment shall include the documents listed below.

a. Request for Payment Form; this form is provided as an appendix to this Specification. The Contracting Officer may approve alternate forms provided that they include the necessary information in a consistent format. The form shall summarize the basis for arriving at the amount of the invoice. Request for Payment forms shall include certification by Contractor and Quality Control (QC) Manager.

b. An up-to-date Schedule of Prices, showing in detail: the estimated cost, percentage of completion, and value of completed performance.

c. Updated Project Schedule

d. Reports required by the Contract.

e. Updated copy of submittal register.

f. Other supporting documents as requested.

Invoices not completed in accordance with Contract requirements will be returned to the Contractor for correction of the deficiencies.

1.6.2 Submission of Invoices

A submittal form cover page is not required for payment requests. The request shall be signed and dated by a person duly authorized by the Contractor.

During the construction phase: Organize your pay request in accordance with all requirements of this Specification section. Review the pay request and any supporting backup with the Contracting Officer's Representative (COR). The COR shall initial the line items as being in-place and accepted. Upon COR's approval, submit in accordance with the procedure outlined in the Task Order.

1.6.2.1 Frequency

In accordance with Section 01 32 16 PROJECT SCHEDULES, submit updated progress documentation along with the request for payment.

1.6.2.2 Mailing

All payment requests shall be sent electronically.

1.6.3 Monthly Pay Requests

The Contractor's pay request consists of the approved Schedule of Values, the Project Schedule Baseline, and the data columns below.

a. Activity number from the accepted Project Schedule Baseline

b. Activity name from the accepted Project Schedule Baseline

c. Schedule of Prices: These will be the Activity values approved by the Contracting Officer.

d. Activity Percent Complete to Date: Insert the percent complete value for this activity. (Note progress will be tracked but payment will be upon 100% completion only).

e. Previously billed Activities: The value in this field is carried over from the previous months approved invoice amounts.

f. Amount requested this invoice. This shall be only items that are 100% complete at submission of the pay request.

g. Remaining Activities Amount: This value shall be the remaining Work left to complete the Contract. (Schedule of Values, minus this billing and all prior billings.)

1.6.4 Final Invoice

a. A final invoice shall be accompanied by the Contractor's Final Release, DHS Form 700-3 provided as appendix to this specification. If the Contractor is incorporated, the Final Release shall contain the corporate seal. An officer of the corporation shall sign and the corporate secretary shall certify the Final Release.

b. Final invoices not accompanied by the Contractor's Final Release will be considered incomplete and will be returned to the Contractor.

1.7 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.

Payment on Work will be approved only on the percentage of Work completed as of the date of the payment request. Percentages of Work complete for each line item shall be obtained by mutual agreement between the Contracting Officer and Contractor prior to submission of the payment request to the Contracting Officer.

1.7.1 Obligation of Government Payments

The Government shall have 14 working days to process each progress payment request based on the date the hard copy of the payment request is received

and logged in by the Contracting Officer. Each request for payment will be stamped with the date received. Electronic submission of payment requests may be used in lieu of mailed submissions if specifically authorized by the Contracting Officer. All payment requests will be retained by the Government. Final payments have a 30 calendar day due date.

Retainage is defined as withholding a fixed percentage of payment from each Contractor payment request, as a matter of standard practice. The Government will not perform retainage on payments for this Work if the Contractor performance is satisfactory. However, the Government shall retain the right to commence retainage at any point if the Contractor exhibits unsatisfactory performance or does not proceed with due diligence in keeping with the approved Project Schedule. If retainage is commenced, the Contractor shall be informed by the Contracting Officer. Retainage will normally be limited to a maximum of 10%.

The obligation of the Government to make payments required under the provisions of this Contract will, at the discretion of the Contracting Officer, be subject to reductions and suspensions permitted under the FAR and agency regulations including the following in accordance with FAR 32.503-6 Suspension or Reduction of Payments:

a. Reasonable deductions due to defects in material or workmanship;

b. Claims which the Government may have against the Contractor under or in connection with this Contract;

c. Unless otherwise adjusted, repayment to the Government upon demand for overpayments made to the Contractor; and

d. Failure to provide up to date Record Drawings not current as stated in Contract Clause "FAR 5252.236-9310, Record Drawings."

1.7.2 Approval

The Contracting Officer is the only approving authority for payment requests.

1.7.3 Payment for On-site and Off-site Materials

Materials are considered a sub-activity of a complete activity. Activities may be divided into installation activities and materials activities. In order for material requests for payment to be considered, the material shall be per the approved submittal, on-site, inspected, and approved by the Contracting Officer and proof of paid invoices provided. The amount requested cannot exceed the material amount identified on the approved schedule of values. If the paid invoice is less than the amount on the approved schedule of values, the remainder shall be applied to the installation phase and be billable once the activity is complete and tested.

Paid material invoices shall be legible and clearly document the type, quantity and cost of the materials covered by the invoice. The Contractor shall clearly mark on each invoice the activity number for which payment is being requested. For invoices covering more than one activity, the Contractor shall indicate both the activity number and the percentage of the total invoice to be applied. Incomplete or unreadable invoices will not be considered when processing payment requests.

If the Contractor orders products prior to receiving approval on required submittals, the Contractor shall be solely responsible if the submitted product is subsequently disapproved.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS
11/21

PART 1 GENERAL

1.1 REFERENCES

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

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 28.307-2	Liability
FAR 52.249-10	Default (Fixed-Price Construction)

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

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Superintendent's Resume

SD-06 Test Reports

Daily Reports

SD-07 Certificates

Weekly Payroll Reports

1.3 MINIMUM INSURANCE REQUIREMENTS

Provide the minimum insurance coverage required by FAR 28.307-2 Liability, during the entire period of performance under this Contract.

1.4 SUPERVISION

1.4.1 Minimum Requirements

Have at least one qualified superintendent, or Contracting Officer approved alternate, on the Project Site at all times during the performance of Contract Work. In addition, if a Quality Control (QC) representative is required on the Contract, then that individual must meet the requirements of Section 01 45 00 QUALITY CONTROL.

1.4.2 Superintendent Qualifications

The Project superintendent must have a minimum of 5 years experience in construction with at least 2 of those years as a superintendent on Projects similar in size and complexity. The individual must be familiar with the requirements of 29 CFR 1910 and 29 CFR 1926 and have experience in the areas of hazard identification and safety compliance. The individual must be capable of interpreting a critical path schedule and Construction Drawings. The contractor shall submit the Superintendent's resume showing that the individual has met these requirements. The qualification requirements for the alternate superintendent are the same as for the Project superintendent. The Contracting Officer may request proof of the superintendent's qualifications at any point in the Project if the performance of the superintendent is in question.

Unless approved otherwise by the Contracting Officer, the Project superintendent may not be assigned to any other projects or efforts besides the Project and Work included under this Contract.

1.4.2.1 Duties

The Project superintendent is primarily responsible for managing and coordinating day-to-day production and schedule adherence on the Project. The superintendent is required to attend Red Zone meetings, Red Zone meetings, partnering meetings, and quality control meetings. The superintendent or qualified alternative must be on-site at all times during the performance of this Contract until the Work is completed and accepted.

1.4.3 Non-Compliance Actions

The Project Superintendent is subject to removal by the Contracting Officer for non-compliance with requirements specified in the Contract and for failure to manage the Project to insure timely completion. Furthermore, the Contracting Officer may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders is acceptable as the subject of claim for extension of time for excess costs or damages by the Contractor.

1.5 REPORTS

1.5.1 Daily Reports:

The Contractor shall submit daily reports to the Contracting Officer using the form provided as an appendix to this Specification.

Daily reports shall be submitted to the Contracting Officer by 9:00 am on the next work day. If Work is not completed on a regular work day due to weather or other constraints, submit a report indicating the reasons.

Submit daily reports electronically as pdf files. Reports should utilize a standard format/template throughout the Project duration. The daily report files shall be named as follows: YYYYMMDD "Project" Daily Report. Where YYYYMMDD is the date and "Project" is the abbreviated Project name. Whenever possible, the report and all attachments should be included in a single document.

In general, daily reports should include the following information:

a. Project title and Contract number.

b. Weather, including inches of rainfall and maximum/minimum temperatures (should be more detailed for outdoor Projects.

c. List of Contractor and subcontractor employees, their job categories, and the number of hours worked on the Project.

d. List of heavy equipment, and the number of hours working. The detailed description of Work performed (see below) should indicate what the equipment was used for.

e. A description of the Work performed and the Base impact areas.

f. List of materials delivered.

g. List of official visitors.

h. List of specific QC inspections and testing performed, including results and corrective actions. If inspection/test results are not yet available, describe what was done and submit results as soon as they become available. The Contractor shall use a tracking system to assure that all such inspection reports are submitted. Resubmittals that provide such additional information should consist of the entire Daily Report, not just the new sheets.

i. List of verbal instructions received from the Government.

j. Certification of the report by the Contractor's Quality Control Representative.

k. Other information to accurately and thoroughly document the Work. This may include photographs.

1.5.2 Weekly Payroll Reports

Weekly Payroll Reports required by Labor Standards Provisions shall be submitted to the Contracting Officer.

1.6 MEETINGS

1.6.1 Post-Award Conference:

The Post-Award Conference shall be conducted via teleconference and will be primarily to assist the Contractor with the documentation requirements and correct use of the forms.

1.6.2 Preconstruction Conference:

Prior to commencing any Work at the Site, the Contractor shall attend a Preconstruction Conference with the Government regarding this work. The Contractor shall attend the Preconstruction Conference either on-site or by teleconference. The Contractor shall be responsible for all expenses incurred to attend this conference. Major subcontractors who will engage in the Work must also attend.

The Pre-construction Conference will be scheduled after the Contracting Officer has approved the following Preconstruction Submittals:

a. List of Contract Personnel (See Section 01 14 00

b. Vehicle List (See Section 01 14 00

c. Schedule of Prices (See Section 01 20 00)

d. Baseline Project Schedule (See Section 01 32 16)

e. Submittal Register ((See Section 01 33 00

f. Accident Prevention Plan (See Section 01 35 26)

g. Quality Control Plan (See Section 01 45 00)

h. Environmental Protection Plan (See Section 01 57 19)

Upon approval of the required Preconstruction Submittals, coordinate with the Contracting Officer to determine the time and location of the Preconstruction Conference.

On-site Work and any request for progress payments depend on successful completion of the Preconstruction requirements and the approval of Preconstruction Submittals by the Government.

1.6.2.1 Meeting Content:

Contract requirements, administrative procedures, and general requirements of the Work to be performed will be discussed.

The meeting should also help develop a mutual understanding between the Contractor and the Government relative to the administration of the safety program, preparation of the schedule of prices or earned value report, Shop Drawings, and other submittals, scheduling programming, and prosecution of the Work.

The Contractor shall present any technical questions, recommendations, value engineering proposals, requests for variance from the Project requirements, or any condition which may constitute a changed Site conditions after start of Work.

In addition, the Preconstruction Meeting Discussion shall cover the following:

a. Proposed Project Schedule

b. List of Technical Submittals (See Section 01 33 00 SUBMITTAL PROCEDURES)

c. Contract Administration Issues (See Section 01 30 00 ADMINISTRATIVE REQUIREMENTS)

d. Request For Information process

e. Any request for variance from original Contract

Commencement of on-site Work depends on successful completion of the preconstruction requirements and the approval of preconstruction submittals by the Government.

1.6.2.2 Meeting Minutes:

Meeting minutes shall be recorded by the Contractor. Contractor shall be responsible for the preparation and distribution of meeting minutes. Provide minutes within 2 days of meeting.

1.6.2.3 Notice to Proceed (NTP):

Commencement of construction will only be allowed after approval of the submittals listed above and completion of the Pre-construction Conference. Unless otherwise specified, the intent is to begin construction within a maximum of 30 calendar days after the award of the Contract/task order, providing the Contractor has complied with all requirements to date.

Failure of the Contractor to comply with the requirements of this section shall be grounds for determination by the Contracting Officer that the Contractor is not prosecuting the Work with such diligence as will ensure completion within the time specified. Upon such determination the Contracting Officer may terminate the Contractor's right to proceed with the Work, or any separable part thereof, in accordance with FAR 52.249-10 Default (Fixed-Price Construction).

1.6.3 Weekly Progress Meetings (Construction Phase):

Submit a proposed a method to impart information to the Contracting Officer and customer and receive customer & Contracting Officer input on a weekly basis. The proposed method will provide the required information listed in the weekly look ahead schedule (see Section 01 32 16 PROJECT SCHEDULES) and provide and solicit input on safety, provide current status of RFIs (Government and Internal) and CMRs, updates on submittal status, review quality assurance/control items, and provide Base impact maps. The proposed method shall include an update from the minutes of the previous weekly progress update and any open issues unresolved. The proposed method will be used to review status of the Work and to discuss current concerns, of customer Contractor on-site Contracting Officer.

Proposed method shall be during normal working hours and include concurrence on time by participants listed below.

1.6.3.1 Attendance:

Proposed Method shall include face to face participation of the following personnel:

Superintendent, Quality Control Manager, and other Contractor personnel as needed

Subcontractors or suppliers-as determined by you or the Contracting Officer

Contracting Officer and/or Customer

1.6.3.2 Meeting Minutes:

Meeting minutes shall be recorded by the Contractor. Contractor shall be responsible for the preparation and distribution of meeting minutes. Provide the minutes within 2 working days of the update.

1.6.4 Pre-installation Meetings:

Prior to commencing any crucial element of the Work, organize and conduct a pre-installation meeting with the Contracting Officer. Schedule meeting 3 days prior to the subcontractors intended start of Work. The subcontractor must bring approved copies of all submittals/material catalog cuts, pertaining to his/her Work to this meeting.

The following are considered crucial elements of the Work:

a. Remove existing wood system

b. Aluminum Curtain Wall System

1.6.4.1 Meeting Content:

Topics to be discussed include the following:

Review of pertinent approved material and manufacturers recommended installation procedures (any deviation from manufacturers recommendations must be approved by the DE)

Review of Work Plans

Verify no outstanding RFI's effect this Work element

Status of insurance certificates

List of employees

1.6.4.2 Attendance:

Required Attendance: Attendance at these meetings and conferences will include the following:

Superintendent, Contractor's quality control person, and other Contractor personnel as needed

Subcontractor's foreman

Other personnel as specified in individual technical Specification sections

1.6.4.3 Meeting Minutes:

Meeting minutes shall be recorded by the Contractor. Contractor shall be responsible for the preparation and distribution of meeting minutes. Submit minutes within 2 working days of meeting.

1.6.5 On-Site Safety Meetings:

Comply with Section 01 35 26 for On-Site Safety Meetings.

1.6.6 Labor Interviews:Labor Interviews:

The Government may conduct periodic Labor Standard interviews to insure the on-site workers are being paid the Davis Bacon wage rates, and that the applicable wage rates are properly posted and accessible to the

on-site workforce. Ensure that access to employees and on-site trade personnel is provided upon request.

1.7 FACILITY TURNOVER PLANNING MEETINGS (U.S. Coast Guard District 17 Red Zone - CGRZ)

Meet with the Government to identify strategies to ensure the project is carried to expeditious closure and turnover to the Client. Start the turnover process at the Pre-Construction Conference meeting with a discussion of the U.S. Coast Guard District 17 Red Zone (CGRZ) process to prepare for a Red Zone meeting when work on the project is 80% complete. Include the following in the facility Turnover effort:

1.7.1 CGRZ Agenda

a. Contracting Officer (COR) will provide the Contractor a copy of the CGRZ Agenda template prior to 80 percent completion.

b. Prior to 80 percent completion add/delete critical activities to the CGRZ Agenda template as necessary to match the project scope, and schedule critical activities and insert planned completion dates in the CGRZ Agenda for each critical activity. Present the CGRZ Agenda to COR and review during a regularly scheduled QC Meeting.

1.7.2 Meetings

a. Upon Government acceptance of the CGRZ Agenda, the Project Superintendent is required to lead a CGRZ Meeting at approximately 80 percent project completion.

b. The Contracting Officer will determine the frequency of the meetings.

c. Using the CGRZ Agenda as a Plan of Action and Milestones (POAM) and basis for discussion, review upcoming critical activities and strategies to ensure work is completed on time.

d. Coordinate with the COR any upcoming activities that require Government involvement.

e. Maintain the CGRZ Agenda by documenting the actual completion dates as work is completed and update the CGRZ Agenda with revised planned completion dates as necessary to match progress.

1.8 PARTNERING

To most effectively accomplish this Contract, the Government requires the formation of a cohesive partnership within the Project Team whose members are from the Government, the Contractor and their subcontractors. Key personnel from the Supported Command, the Facility Partner (who will occupy the facility), the Government Design and Construction team and Subject Matter Experts, the Installation, the Contractor and their subcontractors, and the Designer of Record will be invited to participate in the Partnering process. The Partnership will draw on the strength of each organization in an effort to achieve a Project that is without any safety mishaps, conforms to the Contract, and stays within budget and on schedule.

The Contracting Officer will provide Information on the Partnering Process and a list of key and optional personnel who should attend the Partnering

meeting.

1.8.1 Informal Partnering

The Contractor shall organize and conduct the Partnering Sessions with the Contracting Officer and key personnel of the Project Team, including Contractor personnel and Government personnel.

The Initial Partnering session should be a part of the Pre-Construction Meeting. Partnering sessions will be held at a location agreed to by the Contracting Officer and the Contractor (typically a conference room provided by the Contracting Officer or the Contractor). The Initial Informal Partnering Session will be conducted and facilitated using electronic media (a video and accompanying forms) provided by the Contracting Officer. The Partners will determine the frequency of the follow-on sessions, at no more than 3 to six month intervals.

1.9 ELECTRONIC MAIL (E-MAIL) ADDRESS

Establish and maintain electronic mail (e-mail) capability along with the capability to open various electronic attachments as text files, pdf files, and other similar formats. Within 10 days after Contract award, provide the Contracting Officer a single (only one) e-mail address for electronic communications from the Contracting Officer related to this Contract including, but not limited to Contract documents, invoice information, request for proposals, and other correspondence. The Contracting Officer may also use email to notify the Contractor of base access conditions when emergency conditions warrant, such as hurricanes or terrorist threats. Multiple email addresses are not allowed.

It is the Contractor's responsibility to make timely distribution of all Contracting Officer initiated e-mail with its own organization including field office(s). Promptly notify the Contracting Officer, in writing, of any changes to this email address.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SECTION 01 32 16

PROJECT SCHEDULES
11/21

PART 1 GENERAL

1.1 WORK COVERED

This section includes the general requirements of the Contractor pertaining to preparation of Project and Progress Schedules.

Provide, administer, and maintain a computerized Project Schedule as a tool for planning and executing the Work. The Project Schedule will assist the Contracting Officer with evaluating the sequence and progress of the Work, making progress payments, and making decisions relative to time and/or cost adjustments which may result from modifications to the Work.

It is expressly understood and agreed that the time of beginning, the rate of progress, and the time of completion of the Work are of the essence of this Contract. Execute the Work as required to prevent any delay to the Contract milestone dates or the general completion of the Contract.

1.2 REFERENCES

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

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.236-15 Schedules for Construction Contracts

1.3 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Baseline Project Schedule

SD-07 Certificates

Monthly Updates

1.4 BASELINE PROJECT SCHEDULE

Within 30 calendar days after contract award and prior to the Preconstruction Conference, prepare and submit a Baseline Project Schedule in the form of a Bar Chart Schedule in accordance with the terms in Contract Clause FAR 52.236-15 Schedules for Construction Contracts, except as modified in this Contract. The approval of a Baseline Project Schedule is a condition precedent to:

a. The Contractor starting demolition Work or construction stage(s) of the Contract.

b. Processing Contractor's invoice(s) for construction activities/items of Work.

c. Review of any Schedule updates.

See Sections 01 11 00 SUMMARY OF WORK, 01 14 00 WORK RESTRICTIONS, 01 30 00 ADMINISTRATIVE REQUIREMENTS, and 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS for start date assumptions and detailed minimum phasing and sequencing requirements, mandatory interim milestones, and additional temporary facilities.

The Baseline Project Schedule consists of diagrams and reports covering the entire Contract from Contract Award to Final Acceptance. Specific deliverables are listed below.

a. Detailed precedence diagram/Bar Chart

(1) Provide an electronic copy to the Contracting Officer with a title block and a calendar day timeline on each page. Upon request, print the detailed bar charts in color, on 11x17 page size minimum.

(2) Time scale the chart to show a continuous flow of information from left to right.

(3) Show the critical path in red clearly and graphically on the chart with solid bars.

(4) Organize the bar chart by Work Area groupings.

(5) Show fixed Contract dates (Contract completion date and current or data date) as bold vertical lines.

b. Schedule of Cost Loading/Schedule of Prices

c. Written Confirmation of subcontractors and Suppliers

(1) Provide the Contracting Officer with written confirmation of the concurrence of all major trade subcontractors and suppliers with the Baseline Project Schedule.

(2) For purposes of this Article, the term "major subcontractors and suppliers" includes any subcontractor or supplier with 20 percent or more of the value of the Contract.

Submittal of the Baseline Project Schedule, and subsequent Schedule updates, is understood to be the Contractor's certification that the submitted Schedule meets 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).

By execution of the Contract, the Contractor acknowledges that the following have been analyzed.

a. The Scope of the Work, including interim milestones, time and effort to acquire required permits from jurisdictional authorities as required to comply with the Scope of Work of this Contract.

b. The materials and methods of construction required.

c. The availability of skilled and unskilled labor.

d. Restrictions of the Site.

e. Constraints imposed by the Contract.

f. Your own Work load and capacity to perform the Work, and that you agree the specified times are reasonable considering the existing conditions prevailing in the locality of the Work, including weather conditions and other factors, with a reasonable allowance for variations from average.

1.5 SCHEDULE FORMAT

1.5.1 General Schedule Requirements

The following paragraphs contain general scheduling requirements applicable to all components of the Project Schedule submissions.

a. The overall Project Schedule is made up of several related components and submissions. Unless otherwise indicated, the term "Project Schedule" refers to all components of the Schedule, as follows.

(1) Baseline Project Schedule

(2) 3-Week Look Ahead Planning Schedule

(3) Monthly Updates: These components each have several specific deliverables (e.g., reports or diagrams) that are explained in detail in this Section.

b. **Only computer generated Schedules are acceptable.** Project Schedules shall be in the form of a Gant bar chart or other similar bar chart conforming to the critical-path-method for Project Management Planning. The Project Schedule shall list each Work activity along the left vertical side of the page, with a timeline along the top horizontal side of the page.

c. The Project Schedule must show the sequence and interdependence of activities required for complete performance of the Work, beginning with the Contract Award and concluding with the date of Final Acceptance of the Contract. Show all activities in work days, with allowance for the effects of normal weather conditions on outside Work

d. The following information shall be easily determined for each Work activity listed: start date, finish date, duration in days, crew size, and if the activity falls along the critical path. Indicate the date of mobilization to and demobilization from the Project Site on the Schedule. The number of Work activities listed shall be left to the discretion of the Contractor, except that at least one activity shall be listed for each technical Specification division included herein.

e. Activity time durations shall be in units of Project Work Days. They shall be based on the optimum labor, equipment, and materials required to perform each activity on a normal work day basis.

f. No on-site activity may have duration over ten working days, except non-construction activities, such as submittal reviews, procurement, and delivery of materials or equipment, and concrete curing. The duration of each listed non-construction activity shall be limited to not more than 14 calendar days, otherwise the activity shall be broken down into a series of shorter activities.

g. The Project Schedule must comply with all limits imposed by the Scope of Work, with all contractually specified intermediate milestone and completion dates, and with all constraints, restraints, or sequences included in the Contract.

1.5.2 Bar Chart Schedule

The Bar Chart must, as a minimum, show Work activities, submittals, Government review periods, material/equipment delivery, utility outages, on-site construction, inspection, testing, and closeout activities. The Bar Chart must be time scaled and generated using an electronic spreadsheet program.

1.5.3 Schedule Submittals and Procedures

Submit Schedules and updates in PDF format. The page setup shall be 11 x 17 size sheets, in color, with a title block and a calendar timeline on each page.

1.6 SCHEDULE MONTHLY UPDATES

Section 01 20 00 PRICE AND PAYMENT PROCEDURES describes the requirements for making the Request for Progress Payment. In addition, the Contract requires that the Schedule be maintained as an as-built document. Update the Project Schedule at monthly intervals or when the Schedule has been revised. Record actual dates for all activities and adjust the network as necessary to reflect actual execution of the Work. PAYMENT REQUESTS WILL NOT BE PROCESSED UNTIL SUCH UPDATES HAVE BEEN MADE.

Keep the updated Schedule current, reflecting actual activity progress and plan for completing the remaining Work. The update is to be made from the Baseline Project Schedule. Include copies of purchase orders and confirmation of delivery dates as directed by the Contracting Officer. Print a PDF of the detailed bar charts in color, on 11x17 page size minimum, with a title block and a calendar day timeline on each page. Time scale the chart to show a continuous flow of information from left to right. Show the critical path clearly and graphically on the chart with solid bars. Organize the bar chart by Work Area groupings. Provide the electronic copy to the Contracting Officer.

1.6.1 Project Summary Narrative Report

The Project Summary Narrative Report is an analysis that must be submitted with the monthly Schedule update. This report shall indicate all critical path activities that are behind schedule by more than 7 calendar days, describe the cause of the delay and remedial action being taken to correct the schedule slippage. This report must be signed by the Contractor's Project Manager for this Contract. The Project Summary Narrative Report must identify and justify the following:

a. Progress made in each area of the Project

b. Longest Path: Include printed copy on 11 by 17 inch paper, landscape setting

c. Date/time constraint(s), other than those required by the Contract

d. Listing of changes made between the previous Schedule and current updated Schedule including: added or removed activities, original and remaining durations for activities that have not started, logic (sequence, constraint, lag/lead), milestones, planned sequence of operations, longest path, calendars or calendar assignments, and cost loading.

e. Any decrease in previously reported activity Earned Amount

f. Pending items and status thereof, including permits, changes orders, and time extensions

g. Status of Contract Completion Date and interim milestones

h. Current and anticipated delays (describe cause of delay and corrective actions(s) and mitigation measures to minimize)

i. Description of current and future Schedule problem areas.

For each entry in the narrative report, cite the respective Activity ID and Activity Name, the date and reason for the change, and description of the change.

1.7 SCHEDULE SUBMITTALS AND PROCEDURES

This section applies to submission of all Project Schedule components.

1.7.1 Submittal Timing

Submit the Project Schedule according to the following timetable.

a. Project Baseline Schedules: Submit the Baseline Project Schedule to the Contracting Officer a minimum of 14 working days prior to the preconstruction meeting.

b. Monthly Updates: With the monthly pay request or at a minimum once every 30 calendar days.

1.7.2 Acceptance of the Project Schedule

The Contracting Officer will review the Schedule for compliance with the Contract requirements (such as phasing, payment, etc.) only. Sequencing and scheduling of construction for completion of the contractually required Work is the responsibility of the Contractor. Contracting Officer's acceptance of the Schedule and any subsequently modified Schedules does not relieve the Contractor of any Contract requirements omitted and not found by the Contracting Officer. The Contracting Officer's approval and/or acceptance of the Schedule does not imply that the Schedule and its critical path is correct, achievable or the most effective and/or efficient means to complete the Project within the Contract period of performance. If the Schedule is rejected, re-submit at no cost to the Government.

1.7.2.1 Comments by the Contracting Officer

Comments made by the Contracting Officer or Government representatives on the Project Schedule submissions during review shall not relieve the Contractor from compliance with the requirements of the Contract documents.

Following receipt of the Contracting Officer's review comments, review the Schedule to identify missing activities and relationships relevant to the Scope of the Work. No time extensions will be granted by the Contracting Officer to complete activities not initially included in the Project Schedule submissions.

To the extent that there are any conflicts between the accepted Project Schedules and the requirements of the Contract Documents, the Contract Documents govern.

1.7.2.2 Re-Submittal Following Non-Acceptance

Should the Contracting Officer not accept the Contractor's submission of the Project Schedule, comply with the Contracting Officer's direction and resubmit the Project Schedule and all associated submittals within 7 calendar days.

1.8 CONTRACT MODIFICATIONS

Execute the Work in accordance with the accepted Project Schedule. Out of sequence construction, defined as a change from the Project Schedule in actual operations, requires prior approval from the Contracting Officer.

Upon the approval of a Contract Modification by the Contracting Officer, the agreed upon modification activities, activity durations, logic, and impacts shall be reflected in the next Schedule submittal.

No change to the approved activities, original activity durations, logic, interdependencies, milestones, planned sequence of operations, or resource and cost loading of the Project Schedule may be made without prior written approval from the Contracting Officer. If the Contractor desires to make a change to the approved Project Schedule, request permission from the Contracting officer in writing, stating the reasons for the change as well as the impacts of the change, such as the proposed changes in activities, original activity durations, logic, interdependencies, milestones, planned sequence of operations, or resource and cost loading of the Project Schedule. The Contracting Officer will respond within 14 calendar days after the receipt of the change request.

A new Progress Schedule shall be submitted for any modification(s) that adds more than 7 calendar days, either individually or cumulatively, to the critical path of the approved Project Baseline Schedule. Additionally, a new Progress Schedule shall be submitted as soon as the Contractor determines that the current progress of Work will delay the completion date as listed on the approved Project Baseline Schedule by more than 7 calendar days.

1.8.1 Major Revisions

If the Contracting Officer considers the Project Schedule change requested to be of a major nature, the Contracting Officer may require the Contractor to revise and submit for approval, without additional cost to the Government, all of the affected portions of the network diagrams, and

any Schedule reports, cost and cash flow projections, manpower forecasts, or other reports deemed necessary to show the probable effect on the entire Project. Submit the proposed network revision and required reports to the Contracting Officer within 7 calendar days after the Contracting Officer notifies that the requested revision is of a major nature. Only upon the approval of the requested change by the Contracting Officer shall it be reflected in the next Project Schedule update submitted.

A change will be considered of a major nature if the time estimated for an activity or sequence of activities is varied from the original (early start - early finish) plan to the degree that there is reasonable doubt that the Contract completion date or milestones will be met, or if the change impacts the Work of other Contractors at the Project Site. Changes to activities having adequate float will be considered as minor changes, except that an accumulation of minor changes may be considered a major change when such changes affect the Contract completion date or milestones.

1.8.2 Adjustment of Effort

Whenever it becomes apparent that any critical activity completion date may not be met, take the following actions at no additional cost to the Government.

a. Increase construction manpower to put Work back on schedule; and/or

b. Increase the number of work hours per shift, shifts per day, work days per week, amount of construction equipment, or all or any combination of these actions to put Work back on schedule; and/or

c. Re-schedule activities to achieve maximum practical concurrence to place the Work back on schedule.

The Contracting Officer may also require the Contractor to submit for approval, at no additional cost to the Government, such supplementary Progress Schedules, associated reports, and other supporting data deemed necessary to demonstrate how the approved Project Schedule will be regained.

1.8.3 Time Extensions

Time extensions of the Contract completion date or milestones will be granted only to the extent that adjustments to the activity or activities affected by a Contract Modification or delay affect the critical path of activities leading to the Contract completion date or milestones. This determination will be made based on the date that the Contracting Officer issues a notice to proceed with a modification or the date an actual delay begins.

Weather delays for normal weather conditions will not be considered. Non-compensable delays for severe weather may be considered if it can be shown that the weather was unusually severe and the activities affected were on the critical path of the current, updated Project Schedule diagram. Normal weather conditions will be based on a nationally recognized statistical average for the Project Site and in accordance with this Section and Sections 01 11 00 SUMMARY OF WORK and 01 14 00 WORK RESTRICTIONS.

Approval or rejections of each time extension request will be made by the Contracting Officer within 14 calendar days after receipt of request,

unless subsequent meetings and negotiations are necessary.

1.8.4 Time Impact Analysis Requirements

Submit a written Time Impact Analysis (TIA) with each cost and/or time proposal for a proposed change. TIA must illustrate the influence of each change or delay on the Contract Completion Date or milestones. No time extensions will be granted nor delay damages paid unless a delay occurs which consumes all available Project Float, and extends the Projected Finish beyond the Contract Completion Date. Each TIA must demonstrate the estimated time impact based on the date the change was issued, the events of the delay, the status of construction at that point in time, and the event time computation of all activities affected by the change or delay. The event times used in the TIA will be those included in the latest update of the Project Schedule in effect at the time the change or delay was encountered.

a. Each TIA must be in both narrative and Schedule form. The narrative must define the scope and conditions of the change; provide start and finish dates of impact, successor and predecessor activity to impact period, responsible party, describe how it originated, and how it impacts the Schedule. The Schedule submission must consist of three native files:

(1) Fragnet used to define the scope of the changed condition and how you propose to incorporate the change order or delay into the Project Schedule. A fragnet is defined as a sequence of new activities and/or activity revisions that are proposed to be added to the existing Schedule to demonstrate the influence of delay and the method for incorporating delays and impacts into the Schedule as they are encountered.

(2) Most recent accepted Schedule update as of the time of the proposal or claim submission that has been updated to show all activity progress as of the time of the impact start date.

(3) The impacted Schedule that has the fragnet inserted in the updated Schedule and the Schedule "run" so that the new completion date is determined.

b. For claimed As-Built Project delay, the inserted fragnet TIA method must be modified to account for as-built events known to occur after the data date of Schedule update used.

c. TIAs must include any mitigation, and must determine the apportionment of the overall delay assignable to each individual delay. Apportionment must provide identification of delay type and classification of delay by compensable and non-compensable events. The associated narrative must clearly describe analysis methodology used, and the findings in a chronological listing beginning with the earliest delay event.

(1) Identify and classify types of delays as follows:

(a) Force majeure delay (e.g., weather delay): Any delay event caused by something or someone other than the Government (including its agents) or the Contractor, or the risk of which has not been assigned solely to the Government or the Contractor. If the force majeure delay is on the critical path, in absence of

other types of concurrent delays, the Contractor is granted an extension of Contract time, classified as a non-compensable event.

(b) A Contractor-delay: Any delay event caused by the Contractor, or the risk of which has been assigned solely to the Contractor. If the Contractor-delay is on the critical path, in absence of other types of concurrent delays, Contractor is not granted extension of Contract time, and classified as a non-compensable event. Where absent other types of delays, and having impact to Project completion, provide a Corrective Action Plan, identifying plan to mitigate delay, to the Contracting Officer.

(c) A Government-delay: Any delay event caused by the Government, or the risk of which has been assigned solely to the Government. If the Government-delay is on the longest path, in absence of other types of concurrent delays, the Contractor is granted an extension of Contract time, and classified as a compensable event.

(2) Use functional theory to analyze concurrent delays, where: Separate delay issues delay Project completion, do not necessarily occur at same time, rather occur within same monthly Schedule update period at minimum, or within same as-built period under review. If a combination of functionally concurrent delay types occurs, it is considered Concurrent Delay, which is defined in the following combinations:

(a) Government-delay concurrent with Contractor-delay: Excusable time extension, classified non-compensable event.

(b) Government-delay concurrent with force majeure delay: Excusable time extension, classified non-compensable event.

(c) Contractor-delay concurrent with force majeure delay: Excusable time extension, classified non-compensable event.

(3) A pacing delay, reacting to another delay (parent delay) equally or more critical than paced activity, must be identified prior to pacing. Contracting Officer will notify Contractor prior to pacing. Contractor must notify Contracting Officer prior to pacing. Notification must include identification of parent delay issue, estimated parent delay time period, paced activity(s) identity, and pacing reason(s). Pacing Concurrency is defined as follows:

(a) Government-delay concurrent with Contractor-pacing: Excusable time extension, classified compensable event.

(b) Contractor-delay concurrent with Government-pacing: Inexcusable time extension, classified non-compensable event.

1.9 FAILURE TO COMPLY

1.9.1 Failure to Submit Project Schedule and Updates

If the Contractor fails to submit the Project Schedule network diagrams and computer tabulations, the cash flow projections, written confirmation of subcontractors and suppliers, or electronic copies within the time prescribed, the Contracting Officer may stop all Work progress payments until the required submittals are provided. Acceptance of the Project

Schedule is a condition for payment of any portion of the Contract amount.

1.9.2 Failure to Comply with Contracting Officer's Requirements

Failure to comply with the requirements of the Contracting Officer will be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the Work with such diligence as will insure completion within the time or times specified. Upon such determination, the Contracting Officer may terminate the Contractor's right to proceed with the Work, or any separable part thereof, in accordance with the applicable provisions of the Contract.

1.10 CORRESPONDENCE AND TEST REPORTS:

Correspondence (e.g., letters, Requests for Information (RFIs), e-mails, meeting minute items, Production and QC Daily Reports, material delivery tickets, photographs) must reference Schedule Activities that are being addressed. Test reports (e.g., concrete, soil compaction, weld, pressure) must reference Schedule Activities that are being addressed.

1.11 ADDITIONAL SCHEDULING REQUIREMENTS

Any references to additional scheduling requirements, including systems to be inspected, tested and commissioned, that are located throughout the remainder of the Contract Documents, are subject to all requirements of this section.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 33 00

SUBMITTAL PROCEDURES
11/21

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.

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.236-21	Specifications and Drawings for Construction

1.2 SUMMARY

This section includes the general requirements of the Contractor pertaining to submissions to the Contracting Officer required under this Work.

1.2.1 Submittal Information

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

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

1.2.2 Project Type

The Contractor's Quality Control Manager are to check and approve all items before submittal and stamp, sign, and date indicating action taken. Contractor's Quality Control Manager shall certify that each submittal is in compliance with Contract requirements prior to submitting to Contracting Officer. Proposed deviations from the Contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

1.2.3 Constraints

Conform to provisions of this Specification, unless explicitly stated otherwise for submittals listed or specified in this Contract.

Submit complete submittals for each definable feature of the Work. At the same time, submit components of definable features that are interrelated as a system.

When acceptability of a submittal is dependent on conditions, items, or materials included in separate subsequent submittals, the submittal will be returned without review.

Approval of a separate material, product, or component does not imply approval of the assembly in which the item functions.

1.2.4 Submission of Submittals

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

1.3 DEFINITIONS

1.3.1 Submittal Descriptions (SD)

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

SD-01 Preconstruction Submittals

Submittals that are required prior to commencing with the start of Work on Site or starting construction on certain elements of the Work.

Examples of Preconstruction Submittals include but are not limited to: schedules; forms; specialized work plans; Quality Control, Safety, and Environmental Protection plans; etc.

SD-02 Shop Drawings

Drawings, diagrams and schedules provided by the Contractor andspecifically 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.

Submittals provided by the Contractor to graphically show how multiple systems and interdisciplinary Work will be coordinated. This includes schematic diagrams of systems, details of fabrications, layout of particular elements, connections, and other aspects of the Work.

SD-03 Product Data

Preprinted material from the manufacturer demonstrating conformance to Specifications. This may include catalog data, illustrations, schedules, diagrams, performance charts, engineering data, test results, instructions, brochures, etc. illustrating size, physical appearance and other characteristics of materials, systems or equipment.

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

SD-04 Samples

Fabricated or unfabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the Work may 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 Work may be judged. Includes assemblies or portions of assemblies that are to be incorporated into the Project and those that will be removed at conclusion of the Work.

SD-05 Design Data

Design 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 accordance with specified requirements. Unless specified in another section, testing must have been within three years of date of Contract award for the Project.

Report that includes findings of a test required to be performed on an actual portion of the Work or prototype prepared for the Project before shipment to the Project Site.

Report that includes finding of a test made at the Project Site or on sample taken from the Project Site, on a portion of Work during or after installation.

SD-07 Certificates

Certificates may be required of products, installations, procedures, employee qualifications, workmanship, or as otherwise required. Certificates shall be in the form of a written letter, signed by the Owner or some other official with the authority to so obligate the Contractor, subcontractor, manufacturer, or vendor.

Certificates including statements from a manufacturer shall be printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that the product, system, or material meets Specification requirements. Must be dated after award of Project Contract and clearly name the Project.

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

Confined space entry permits

Text of posted operating instructions

SD-08 Manufacturer's Instructions

Preprinted material describing installation, operation, and/or maintenance of a product, system or material, including special notices and (SDS) concerning impedances, hazards and safety precautions.

SD-10 Operation and Maintenance Data

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

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

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

SD-11 Closeout Submittals

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

Submittals required for Third Party Certification (TPC).

Special requirements necessary to properly close out a Construction Contract. For example, Record Drawings and As-Built Drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase Contract.

1.3.2 Approving Authority

Office or designated person authorized by the Contracting Officer to approve the submittal.

1.3.3 Work

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

1.4 SUBMITTALS

Submit the following in accordance with this section.

SD-01 Preconstruction Submittals

Submittal Register

1.5 SUBMITTAL CLASSIFICATION

1.5.1 Government Approval

Government approval is required for extensions of design, critical materials, variations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Government.

1.5.2 For Information Only

Submittals not requiring Government approval will be for information only.

1.6 FORWARDING SUBMITTALS REQUIRING GOVERNMENT APPROVAL

As soon as practicable after award of contract, and before procurement or fabrication, forward to the , U.S. Coast Guard , submittals required in the technical sections of this specification, including shop drawings, product data and samples. In addition, forward a copy of the submittals to the Contracting Officer.

1.6.1 O&M Data

Submit data specified for a given item within 30 calendar days after the item is delivered to the contract site.

In the event the Contractor fails to deliver O&M data within the time limits specified, the Contracting Officer may withhold from progress payments 50 percent of the price of the items to which such O&M data apply.

1.7 PREPARATION

1.7.1 Transmittal Form

Use the U.S. Coast Guard standard transmittal form as the cover page for all submittals. This form is provided as an appendix to this Specification.

Each line item on the Submittal Register shall be a separate submittal. Individual submittals shall be listed as separate line item numbers on the Submittal Transmittal Form. Only two line items shall be listed per form, and both items shall be from the same Specification section to avoid confusion.

The Contractor shall complete only the top portion of the form, electronically or with ball-point pen. **All forms must be signed by the Contractor's Quality Control Manager, indicating that the Contractor has reviewed the submittal for conformance with all requirements of the Contract documents, in order to be accepted.**

Number each form, including resubmissions, in a sequential order based on the date submitted to the Contracting Officer.

Utilize the same Specification section, paragraph number, and description of material as listed in the Submittal Register when filling out the form. The form shall clearly identify the product being submitted. If more than one product or options for a product are included in the submittal, clearly indicate which product or option is being submitted by one of the following methods:

a. Highlight the product or option with a yellow highlighter.

b. Circle the product or option with a bold red circle or cloud.

c. Point to the product or option with a bold red arrow.

1.7.2 Submittal Media

The preferred format for submittals for both Approval and For-Information-Only is a bookmarked and highlighted PDF delivered electronically to the Contracting Officer. If the file is not bookmarked and highlighted the submittal will be returned to the contractor to resolve/. If the Contractor chooses to provide hard copies of submittals, then any schedule impacts, and all reproduction and delivery fees shall be entirely at the Contractor's expense with the following exceptions:

a. Material samples required for SD-04 Samples items.

b. O&M manuals required for SD-10 Operation and Maintenance Data.

The Contractor shall include costs for the above submittal types in their bid/proposal and shall incorporate all necessary lead times in the Baseline Schedules. Submit hard copies of the above submittal types in accordance with paragraph QUANTITY OF SUBMITTALS.

1.7.2.1 Electronic File Format

DO NOT compress ("zip") electronic files to be submitted to the U.S. Coast Guard. File compression is prohibited.

Only one submittal form cover page shall be included with each submission. Compile the submittal file as a single, complete document, to include the Transmittal Form described within. Name the electronic submittal file specifically according to its contents, and coordinate the file naming convention with the Contracting Officer.

Electronic files must be of sufficient quality that all information is legible. Use PDF as the electronic format, unless otherwise specified or directed by the Contracting Officer. Generate PDF files from original documents with bookmarks so that the text included in the PDF file is searchable and can be copied. If documents are scanned, optical character resolution (OCR) routines are required. Index and bookmark files exceeding 30 pages to allow efficient navigation of the file.

When required, the electronic file must include a valid electronic signature or a scan of a signature.

1.7.2.2 Hard Copy Format

If the Contractor prefers to mail hard copies, unless specifically noted otherwise under paragraph QUANTITY OF SUBMITTALS, or if requested by the Contracting Officer, provide the Contracting Officer with three complete copies of the original submittal material with each submission. The Contractor will determine the total number of copies, depending upon the need to redistribute them to subcontractors and suppliers. The Government will keep two copies, and return the rest to the Contractor. Only one submittal form cover page shall be included with each submission.

1.7.2.3 Delivery

1.7.2.3.1 Electronic File Delivery

Electronic submittal packages less than 10 MB may be emailed directly to the intended recipients. Coordinate with Contracting Officer as required to establish secure file transfer protocol for electronic submittal packages larger than 10 MB.

1.7.2.3.2 Mailing

All hard copy submittals shall be sent directly to one of the following addresses:

USPS Mailing Address
ATTN: Intended Recipient
(to be assigned by KO)
CG Civil Engineering Unit Juneau
P.O. BOX 25517
Juneau, AK 99802-5517

FedEx or UPS Shipping Address:
ATTN: Intended Recipient
(to be assigned by KO)
CG Civil Engineering Unit Juneau
709 West 9th Street, Room 817
Juneau, Alaska 99801

1.7.3 Submittal Format

1.7.3.1 Format of SD-01 Preconstruction Submittals

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

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

1.7.3.2 Format for SD-02 Shop Drawings

Provide Shop Drawings not less than 8 1/2 by 11 inches nor more than 22 by 34 inches, except for full-size patterns or templates. Prepare Drawings to accurate size, with scale indicated, unless another form is required. Ensure Drawings are suitable for reproduction and of a quality to produce clear, distinct lines and letters, with dark lines on a white background.

a. Include the nameplate data, size, and capacity on Drawings. Also include applicable federal, military, industry, and technical society publication references.

b. Dimension Drawings, except diagrams and schematic Drawings. Prepare Drawings demonstrating interface with other trades to scale. Use the same unit of measure for Shop Drawings as indicated on the Contract Drawings. Identify materials and products for Work shown.

1.7.3.2.1 Drawing Identification

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

Number Drawings in a logical sequence. Each Drawing is to bear the number of the submittal in a uniform location next to the title block. Place the Government Contract number in the margin, immediately below the title

block, for each Drawing.

1.7.3.3 Format of SD-03 Product Data

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

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

1.7.3.3.1 Product Information

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

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

1.7.3.3.2 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of organizations including but not limited to the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), etc., submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing, submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.7.3.3.3 Data Submission

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

Submit the manufacturer's instructions before installation.

1.7.3.4 Format of SD-04 Samples

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

a. Sample of Equipment or Device: Full size.

b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.

c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.

d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.

e. Sample Volume of Nonsolid Materials: Pint. Examples of nonsolid materials are sand and paint.

f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.

g. Sample Panel: 4 by 4 feet.

h. Sample Installation: 100 square feet.

1.7.3.5 Format of SD-05 Design Data

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

1.7.3.6 Format of SD-06 Test Reports

Provide reports on 8 1/2 by 11 inch page size in a complete bound volume.

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

1.7.3.7 Format of SD-07 Certificates

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

Provide a bound volume for submittals containing numerous pages.

1.7.3.8 Format of SD-08 Manufacturer's Instructions

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

Submit the manufacturer's instructions before installation.

1.7.3.8.1 Standards

Where equipment or materials are specified to conform to industry or technical-society reference standards of organizations including but not limited to the American National Standards Institute (ANSI), ASTM International (ASTM), National Electrical Manufacturer's Association (NEMA), Underwriters Laboratories (UL), etc., submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In lieu of the label or listing,

submit a certificate from an independent testing organization, competent to perform testing, and approved by the Contracting Officer. State on the certificate that the item has been tested in accordance with the specified organization's test methods and that the item complies with the specified organization's reference standard.

1.7.3.9 Format of SD-09 Manufacturer's Field Reports

Provide reports on 8 1/2 by 11 inch page size in a complete bound volume.

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

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

Comply with the requirements specified.

1.7.3.11 Format of SD-11 Closeout Submittals

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

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

1.7.4 Source Drawings for Shop Drawings

1.7.4.1 Source Drawings

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

1.7.4.2 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction data for the referenced Project. Any other use or reuse is at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor must make no claim, and waives to the fullest extent permitted by law any claim or cause of action of any nature against the Government, its agents, or its subconsultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities, or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic source Drawing files are not construction documents. Differences may exist between the source Drawing files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic source Drawing files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. The Contractor is responsible for determining if any conflict exists. In the event that a conflict arises between the signed and sealed construction documents

prepared by the Government and the furnished source Drawingfiles, the signed and sealed construction documents govern. Use of these source Drawing files does not relieve the Contractor of the duty to fully comply with the Contract documents, including and without limitation the need to check, confirm and coordinate the Work of all Contractors for the Project. If the Contractor uses, duplicates or modifies these electronic source Drawing files for use in producing construction data related to this Contract, remove all previous indication of ownership (seals, logos, signatures, initials and dates).

1.8 QUANTITY OF SUBMITTALS

1.8.1 Number of SD-02 Shop Drawing Copies

Unless otherwise specified, submit two copies of submittals of Shop Drawings requiring review and approval by a QC organization. Submit two copies of Shop Drawings requiring review and approval by the Contracting Officer.

1.8.2 Number of SD-04 Samples

a. Submit two samples, or two sets of samples showing the range of variation, of each required item. One approved sample or set of samples will be retained by the approving authority and one will be returned to the Contractor.

b. Submit one sample panel or provide one sample installation where directed. Include components listed in the technical section or as directed.

c. Submit one sample installation, where directed.

d. Submit one sample of nonsolid materials.

1.8.3 Number of SD-05 Design Data Copies

Submit in compliance with quantity requirements specified for Shop Drawings.

1.8.4 Number of SD-10 Operation and Maintenance Data Copies

Submit copies complying with the requirements specified.

1.9 INFORMATION ONLY SUBMITTALS

Submittals for information only must be certified by the QC manager and submitted to the Contracting Officer. Approval of the Contracting Officer is not required on information only submittals. The Contracting Officer will mark "receipt acknowledged" on submittals for information and will return only the transmittal cover sheet to the Contractor. Normally, submittals for information only will not be returned. However, the Government reserves the right to return unsatisfactory submittals and require the Contractor to resubmit any item found not to comply with the Contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and Specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the Work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those

instances where the technical Specifications so prescribe.

1.10 PROJECT SUBMITTAL REGISTER

A sample Project Submittal Register showing items of equipment and materials for when submittals are required by the Specifications is provided by the Government. The Contractor is ultimately responsible for ensuring all necessary submittals are included in the Submittal Register and shall submit proposed revisions to the Contracting Officer for approval.

1.10.1 Submittal Management

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

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

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

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

Column (f): This column is not used by the U.S. Coast Guard, leave blank or insert a dash, not used, N/A, etc.

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

1.10.2 Preconstruction Use of Submittal Register

Submit the submittal register within 15 calendar days after receipt of Notice of Construction Contract Award. Include the QC plan and the Project Schedule. Verify that all submittals required by the Contract/Task Order are listed and add missing submittals. Coordinate and complete the following fields on the register submitted with the QC plan and the Project Schedule:

Column (a) Activity Number: Activity number from the Project Schedule.

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

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

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

1.10.3 Contractor Use of Submittal Register

Update the following fields with each submittal throughout the Contract.

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

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

Column (l) Date submittal transmitted.

Column (q) Date approval was received.

1.10.4 Approving Authority Use of Submittal Register

Update the following fields:

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

Column (l) Date submittal was received.

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

Column (q) Date of return to Contractor.

1.10.5 Action Codes

"A" - "Approved as submitted"; "Accepted"; "Agreed"

"AN" - "Approved as noted"

"I" - "For Information Only"

"RR" - "Disapproved as submitted"; "Revise and Resubmit"

"CR" - "Check and Resolve"

"NR" - "Not Reviewed"

"RA" - "Receipt Acknowledged"

1.10.6 Delivery of Copies

Maintain an up-to-date Submittal Register at the Project Site.

Submit an updated electronic copy of the submittal register to the Contracting Officer with each invoice request.

Provide an updated Submittal Register monthly regardless of whether an invoice is submitted.

1.11 VARIATIONS

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

1.11.1 Considering Variations

Discussion of variations with the Contracting Officer before submission will help ensure that functional and quality requirements are met and minimize rejections and resubmittals. When contemplating a variation that results in lower cost, consider submission of the variation as a Value Engineering Change Proposal (VECP).

Specifically point out variations from Contract requirements in transmittal letters. Failure to point out variations may cause the Government to require rejection and removal of such Work at no additional cost to the Government.

1.11.2 Proposing Variations

If a submission includes a request for a variation from or change in the Contract requirements, the following statement shall be provided in the comments section of the Submittal Transmittal Form, and the statement shall be highlighted in yellow:

"THIS SUBMITTAL REFLECTS A REQUEST FOR A VARIATION FROM OR A CHANGE IN THE REQUIREMENTS OF THE PROJECT DRAWINGS AND/OR SPECIFICATIONS."

When proposing variation, include a written request to the Contracting Officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Government. Include the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

1.11.3 Warranting that Variations are Compatible

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

1.11.4 Review Schedule Extension

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

1.12 SCHEDULING

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

a. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of Work so that Work will not be delayed by submittal processing. The Contractor is responsible for additional time required for Government reviews resulting from required

resubmittals. The review period for each resubmittal is the same as for the initial submittal.

b. Submittals required by the Contract documents are listed on the submittal register. If a submittal is listed in the submittal register but does not pertain to the Contract Work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Contracting Officer does not relieve the Contractor of supplying submittals required by the Contract documents but that have been omitted from the register or marked "N/A."

c. Resubmit the submittal register and annotate it monthly with actual submission and approval dates. When all items on the register have been fully approved, no further resubmittal is required.

1.12.1 Government Review Period

Except as specified otherwise, the Government shall have 14 calendar days to review each submittal, or resubmittal, based on the day the submittal is received and logged in by the Contracting Officer. Each Submittal Transmittal Form will be stamped with the date received. The period of review for submittals with Contracting Officer approval begins when the Government receives the submittal from the Contractor.

1.13 GOVERNMENT APPROVING AUTHORITY

The Contracting Officer is the only approving authority for submittals, the Contracting Officer will:

a. Stamp the Submittal Transmittal Form with the date received.

b. Review submittals for approval within the scheduling period specified and only for conformance with Project design concepts and compliance with Contract documents.

c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with comments and markings appropriate for the action indicated.

Upon completion of review of submittals, stamp and date the submittal response.

1.13.1 Review Notations

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

a. Submittals marked "approved" or "accepted" authorize proceeding with the Work covered.

b. Submittals marked "approved as noted" or "approved, except as noted, resubmittal not required," authorize proceeding with the Work covered provided that the Contractor takes no exception to the corrections.

c. Submittals marked "rejected," "not approved," "disapproved," or "revise and resubmit" indicate incomplete submittal or noncompliance with the Contract requirements or design concept. Resubmit with

appropriate changes along with a written response, in **bold** font to each review comment. Do not proceed with Work for this item until the resubmittal is approved.

d. Submittals marked "not reviewed" indicate that the submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

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

1.14 DISAPPROVED SUBMITTALS

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

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

The Government shall not be responsible for delays in construction schedule due to the rejection of incomplete submittals, or rejection of submittals that do not demonstrate compliance with the requirements of the Contract Documents.

1.15 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing, and other information are in general conformance with the design concept of the Project and general compliance with the information provided in the Contract documents. The Contractor is responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction; coordinating Work with that of all other trades; and performing the Work in a safe and satisfactory manner.

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

Submittals are only approved when the Submittal Transmittal Form is appropriately completed and signed by the Contracting Officer. There is no concept of verbal approval for submittals.

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

1.16 APPROVED SAMPLES

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

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

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

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

1.17 WITHOLDING OF PAYMENT

Payment for materials incorporated in the Work will not be made if required approvals have not been obtained.

1.18 Contractor Certification Stamp (Prior to Submittal to Government)

Certify the submittal data as follows on the U.S. Coast Guard Submittal Transmittal Form: "I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the Contract Drawings and Specifications except as otherwise stated.

_____NAME OF CONTRACTOR _____ SIGNATURE OF CONTRACTOR

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS
11/21

PART 1 GENERAL

1.1 GENERAL

1.1.1 Work Covered

This section includes the general requirements of the Contractor regarding compliance with federal and state regulations pertaining to occupational safety and health of workers during performance of Work, including identification of applicable Laws and Regulations, Submittals, notification requirements, and Health and Safety execution Specifications.

Primary hazards at the Site are: Work at heights, asbestos, lead, and energized utilities. The Contractor's Health and Safety Program shall include provisions for all workers, including subcontractor's to receive appropriate awareness training for these hazards.

Consult and comply with the requirements of 29 CFR 1910, 29 CFR 1926, 8 AAC 61 Article 11, and with the requirements as stipulated herein.

1.1.2 Contractor's General Responsibilities for Health and Safety

Comply with any and all state, federal, and local ordinances, Laws and Regulations.

The Contractor is responsible for the Health and Safety of the Contractor's employees, it's subcontractors, suppliers, agents, inspectors, visitors, the general public, and any others associated with or interacting with the Contractor who provides labor, goods, or other services on the Site.

The Contractor shall be responsible for emergency response planning and notification, and for actual response to any and all emergencies that may occur during the course of the Work, including emergencies that may occur when the Contractor is not present at the Site.

The Contractor is responsible for communicating daily with the Contracting Officer regarding Health and Safety issues. Such communication shall not imply any duty or responsibility on the part of the Contracting Officer with regard to Health and Safety of the Contractor's employees, it's subcontractors, suppliers, the general public, or others. The Contractor shall have responsibility and duty to the Contracting Officer to communicate Health and Safety issues accurately and in a timely manner.

The Contractor shall be responsible for implementing a behavior-based safety process and providing Site training, observation, and feedback for Contractor personnel employed at the Site.

1.2 REFERENCES

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

ALASKA ADMINISTRATIVE CODE (AAC)

8 AAC 61 Article 11	Occupational Safety and Health Standards

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.34	(2021) Protection of the Public on or Adjacent to Construction Sites
ASSP Z359.0	(2018) Definitions and Nomenclature Used for Fall Protection and Fall Arrest
ASSP Z359.1	(2020) The Fall Protection Code
ASSP Z359.2	(2017) Minimum Requirements for a Comprehensive Managed Fall Protection Program
ASSP Z359.3	(2019) Safety Requirements for Lanyards and Positioning Lanyards
ASSP Z359.4	(2013) Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components
ASSP Z359.6	(2016) Specifications and Design Requirements for Active Fall Protection Systems
ASSP Z359.7	(2019) Qualification and Verification Testing of Fall Protection Products
ASSP Z359.11	(2014) Safety Requirements for Full Body Harnesses
ASSP Z359.12	(2019) Connecting Components for Personal Fall Arrest Systems
ASSP Z359.13	(2013) Personal Energy Absorbers and Energy Absorbing Lanyards
ASSP Z359.14	(2014) Safety Requirements for Self-Retracting Devices for Personal Fall Arrest and Rescue Systems
ASSP Z359.15	(2014) Safety Requirements for Single Anchor Lifelines and Fall Arresters for Personal Fall Arrest Systems

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B30.3	(2020) Tower Cranes
ASME B30.5	(2018) Mobile and Locomotive Cranes
ASME B30.8	(2020) Floating Cranes and Floating Derricks

ASME B30.9	(2018) Slings
ASME B30.20	(2018) Below-the-Hook Lifting Devices
ASME B30.22	(2016) Articulating Boom Cranes
ASME B30.26	(2015; R 2020) Rigging Hardware

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.236-2	Differing Site Conditions
FAR 52.243-4	Changes

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C2	(2017; Errata 1-2 2017; INT 1 2017) National Electrical Safety Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(2018; ERTA 1-2 2018) Standard for Portable Fire Extinguishers
NFPA 241	(2019) Standard for Safeguarding Construction, Alteration, and Demolition Operations
NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code
NFPA 70E	(2021) Standard for Electrical Safety in the Workplace

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
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1919	Gear Certification
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.1400	Cranes and Derricks in Construction
29 CFR 1926.32	Definitions
29 CFR 1926.53	Ionizing Radiation

29 CFR 1926.54	Nonionizing Radiation
29 CFR 1926.450	Scaffolds
29 CFR 1926.454	Scaffolds, Training Requirements
29 CFR 1926.500	Fall Protection
29 CFR 1926.503	Fall Protection, Training Requirements
29 CFR 1926.650	Excavations
29 CFR 1926, Subpart K	Electrical
29 CFR 1926, Subpart L	Scaffolds
29 CFR 1926, Subpart M	Fall Protection
29 CFR 1926, Subpart AA	Confined Spaces in Construction
29 CFR 1926, Subpart CC	Cranes & Derricks in Construction
CPL 2.100	(1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.3 DEFINITIONS

1.3.1 Abatement

Abatement includes removal of materials as required to facilitate the Work, and, removal to the extent that hazardous material is controlled/removed presenting no continuing release of hazard to building occupants.

1.3.2 Carcinogen

A substance or agent capable of causing cancer.

1.3.3 Chemical

Any manufactured, processed or refined chemical compound. This includes any paint or coating, solvent, sealant, adhesive, salt, acid, alkali, herbicide, pesticide, preservative, or petroleum product.

1.3.4 Combustible

Any substance having a flashpoint at or above 100 F and below 200 F.

1.3.5 Competent Person (CP)

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

1.3.6 Competent Person, Confined Space

The CP, Confined Space, is a person meeting the competent person requirements as defined by 29 CFR 1926.32, with thorough knowledge of OSHA's Confined Space Standards, 29 CFR 1910.146 and 29 CFR 1926, Subpart AA, and designated in writing to be responsible for the immediate supervision, implementation and monitoring of the confined space program, who through training, knowledge and experience in confined space entry is capable of identifying, evaluating and addressing existing and potential confined space hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.3.7 Competent Person, Cranes and Rigging

The CP, Cranes and Rigging, as defined by 29 CFR 1926.1400, is a person meeting the competent person requirements, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the Crane and Rigging Program, who through training, knowledge and experience in crane and rigging is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.3.8 Competent Person, Excavation/Trenching

A CP, Excavation/Trenching, is a person meeting the competent person requirements as defined by 29 CFR 1926.650, who has been designated in writing to be responsible for the immediate supervision, implementation and monitoring of the excavation/trenching program, who through training, knowledge and experience in excavation/trenching is capable of identifying, evaluating and addressing existing and potential hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.3.9 Competent Person, Fall Protection

The CP, Fall Protection, is a person meeting the competent person requirements as defined by 29 CFR 1926.32 and in accordance with ASSP Z359.0 and 29 CFR 1926, Subpart M, who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

1.3.10 Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements of 29 CFR 1926.450, and designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and also has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented and include experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented, minimum of 8-hours of scaffold training to include training

on the specific type of scaffold being used (e.g., mast-climbing, adjustable, tubular frame), in accordance with 29 CFR 1926.454.

1.3.11 Competent Person (CP) Trainer

A competent person trainer is a competent person meeting the requirements of 29 CFR 1910 and 29 CFR 1926, who is qualified in the training material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

1.3.12 Confined Space

A space that can be entered and occupied, has a limited means or entry or exit, and is not designed for continuous occupancy, or any other space as defined in 29 CFR 1910.46.

1.3.13 Corrosive

A substance that can cause visible destruction or irreversible alterations in living tissue upon contact.

1.3.14 Dust

Airborne solid particles ranging in size from 0.1 to 25 microns.

1.3.15 Flammable

Any substance having a flashpoint below 140 F.

1.3.16 HAZMAT

Hazardous Material, Any substance listed by the U.S. Department of Transportation as a hazardous material under 49 CFR 172.101 and appendices.

1.3.17 Hazardous Substance

Any substance listed by the U.S. Environmental Protection Agency as a hazardous substance under 40 CFR 116.4.

1.3.18 Health Hazard

Any chemical, pathogen or other substance that can present adverse acute or chronic effects on human health. This includes carcinogens, toxins, irritants, corrosives, sensitizers, teratogens and mutagens.

1.3.19 High Risk Activities

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

1.3.20 High Visibility Accident

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

1.3.21 Hot Work

Any activity involving open flame, sparks, or a heat source in excess of 100 F. This includes welding, brazing, gas cutting, soldering, and grinding.

1.3.22 Irritant

A substance which causes inflammation of the eyes, skin or respiratory system.

1.3.23 Load Handling Equipment (LHE)

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

1.3.24 Load Handling Equipment (LHE) Accident or Load Handling Equipment Mishap

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

1.3.25 Medical Treatment

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

1.3.26 MSDS

Material Safety Data Sheet.

1.3.27 MSHA

Mine Safety and Health Administration.

1.3.28 Mutagen

A substance capable of altering genetic material in living tissue.

1.3.29 Near Miss

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

1.3.30 NIOSH

National Institute for Occupational Safety and Health.

1.3.31 Occupational Illness

Any work-related exposure that results in noticeable or diagnosed health-related symptoms.

1.3.32 Occupational Injury

Any work-related accident that results in medical treatment other than first aid, loss of consciousness, restriction of work or motion, transfer to another job, or death.

1.3.33 Operating Envelope

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

1.3.34 PADS

Physical Agent Data Sheet.

1.3.35 Qualified Person (QP)

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

1.3.36 Qualified Person, Fall Protection (QP for FP)

A QP for FP is a person meeting the definition requirements of 29 CFR 1910, 29 CFR 1926, and ASSP Z359.2 standard, having a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.

1.3.37 Safety Hazard

Any physical condition that presents a potential risk to human health or safety. This includes heat or cold stress, noise, dust, vibrations, or any type of radiation. This also includes any Work that presents the possibility of falls, electrocution, fire, or other work-related accident.

1.3.38 Sensitizer

A substance which may cause adverse health effects only after repeated exposure.

1.3.39 Teratogen

A substance that when exposed to a pregnant female may result in changes to the fetus.

1.3.40 Toxin

A chemical that causes adverse health effects when ingested, absorbed through the skin or inhaled.

1.4 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP)

SD-06 Test Reports

Notifications and Reports

Accident Reports

LHE Inspection Reports

SD-07 Certificates

Contractor Safety Self-Evaluation Checklist

Crane Operators/Riggers

Standard Lift Plan

Activity Hazard Analysis (AHA)

Certificate of Compliance

1.5 CONTRACTOR SAFETY SELF-EVALUATION CHECKLIST

The Contracting Officer will provide a "Contractor Safety Self-Evaluation checklist" to the Contractor at the pre-construction conference. Complete the checklist monthly and submit 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 may result in retention of up to 10 percent of the voucher.

The Contractor shall routinely conduct internal safety audits on Subcontract and Sub-subcontract Work Sites in accordance with the Contractor's Accident Prevention Plan. The Contractor shall conduct routine behavioral observations and provide immediate feedback during Work activities to promote safe behavior of Contractor employees and subcontractor employees.

1.6 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this Contract, comply with the most recent edition of OSHA 29 CFR 1910, 29 CFR 1915, 29 CFR 1919, and 29 CFR 1926, and the federal, state, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting Work. Where the requirements of this Specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.7 SITE QUALIFICATIONS, DUTIES, AND MEETINGS

1.7.1 Personnel Qualifications

1.7.1.1 Responsible Person(s)

The Superintendent shall be responsible for enforcing the occupational safety and health standards as required in this section, including but not limited to the following:

a. Accident Prevention: (a) Compliance with Codes, (b) Assignment of Responsibility, (c) Safety Indoctrination/Training, (d) Inspections, Reports and Control of Hazards, (e) General Housekeeping and Cleanup, and (f) Protection of Contractor Employees, U.S. Coast Guard Personnel and Transients.

b. General Operating Procedures: (a) Material Storage and Handling, (b) Protective Equipment - Types and Use, (c) Tools and Equipment - Inspection Schedules and Operator Qualifications, (d) Motor Vehicle Operation, and (e) Specific Control of Hazards of Work to be performed (e.g., Dust, Noise, etc.).

c. Fire Prevention/Protection: (a) Identification of Hazardous Areas, and (b) Hot Work Permits, etc.

d. First Aid/Medical Working Conditions: (a) Sanitation, (b) Illumination, and (c) Ventilation.

e. Investigating/Reporting Accidents

f. The above listing is not intended to be an all-inclusive listing of areas to be covered by the Contractor's Accident Prevention Plan. The Contractor shall review the Project Specifications and Drawings to ensure that areas not covered in the above listing are included in the Accident Prevention Plan.

1.7.1.2 Safety Officer

The Contractor shall designate a Contractor's Safety Officer on the Site during the Work who shall, at a minimum, have at least one (1) year of experience as a Safety Officer, and have 30-hour Occupational Safety and Health Administration (OSHA) Construction Safety Training and Hazardous Waste Operations training, the OSHA 10 - hour Construction Safety Training and 8-hour OSHA Supervisor training. The Safety Officer may be assigned other duties.

If the Safety Officer is off-site for a period longer than 24 hours, an

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

1.7.1.2.1 Additional Safety Officer Requirements and Duties

The Safety Officer shall enforce the requirements of safety for all Contractor personnel on-site at all times. The Safety Officer shall ensure that all Contractor personnel, subcontractor personnel, and Contractor visitors, follow the Contractor's Accident Prevention Plan, including wearing the designated level of Personal Protective Equipment (PPE). If the Safety Officer elects to require a higher level of protection than that specified in the Accident Prevention Plan, the extra costs associated with such higher level shall be borne by the Contractor.

Prior to mobilization and continually through the duration of the Work, the Safety Officer shall inspect the Site and document area-specific and worker-specific and general public-specific protection requirements.

After mobilization, the Safety Officer shall monitor activities and shall document the need for additional worker and public safety protection as required, based on activities performed and Action Levels specified in the Accident Prevention Plan.

The Safety Officer shall verify that all activities are performed in accordance with the Accident Prevention Plan and all federal, state, local, and Health and Safety standards, Laws and Regulations, and guidelines.

In the event of a health or safety risk, as determined by the Safety Officer or by other Contractor personnel or by the Contracting Officer, the Contractor shall not proceed with the Work until a method for handling the risk has been determined. Any health or safety risk resulting in a stoppage of Work shall be reported immediately to the Contracting Officer.

The Safety Officer may also serve as the Quality Control Manager. The Safety Officer may also serve as the Superintendent.

1.7.1.3 Competent Person Qualifications

Provide Competent Persons in accordance with 29 CFR 1910 and 29 CFR 1926 and herein. Competent Persons for high risk activities include confined space, cranes and rigging, excavation/trenching, fall protection, and Electrical Work. The CP for these activities must be designated in writing, and meet the requirements for the specific activity (e.g., competent person, fall protection).

For one who is assigned the role of a "competent person," documentation of sufficient and relevant training and experience to perform the assigned duties and responsibilities of that role. As defined in 29 CFR 1926, the competent person shall be "one who is capable of identifying existing and predictable hazards, and who has authority to take prompt corrective measures to eliminate them." Relevant training and experience shall be in the same type of Project activities included in the Work under this

Contract.

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

1.7.1.3.1 Competent Person for Scaffolding

Provide a Competent Person for Scaffolding who meets the requirements of 29 CFR 1926, Subpart L and herein.

1.7.1.3.2 Competent Person for Fall Protection

Provide a Competent Person for Fall Protection who meets the requirements of 29 CFR 1926, Subpart M, and herein.

1.7.1.4 Qualified Trainer Requirements

Individuals qualified to instruct the 40 hour Contract safety awareness course, or portions thereof, must meet the definition of a Competent Person Trainer, and, at a minimum, possess a working knowledge of the following subject areas: 29 CFR 1910 and 29 CFR 1926, Electrical Standards,Lockout/Tagout, Fall Protection, Confined Space Entry for Construction; Excavation, Trenching and Soil Mechanics, and Scaffolds in accordance with 29 CFR 1926.450, Subpart L.

Instructors are required to:

a. Prepare class presentations that cover construction-related safety requirements.

b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five (5) years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.

c. Update training course materials whenever an update of 29 CFR 1910 or 29 CFR 1926 becomes available.

d. Provide a written exam of at least 50 questions. Students are required to answer 80 percent correctly to pass.

e. Request, review and incorporate student feedback into a continuous course improvement program.

1.7.1.5 Training

The Contractor shall provide the following training to workers potentially working in areas where hazards may be encountered:

a. When applicable: Initial 40-hour OSHA hazardous waste Health and Safety training and current annual 8-hour refresher training.

b. When applicable: enrollment in a medical monitoring program, with clearance within the previous 12 months from a licensed physician

allowing the worker to participate in field activities and use respiratory protective equipment. The Contractor shall not submit detailed medical information for employees.

c. Current respiratory fit testing certification.

d. Current cardiopulmonary resuscitation (CPR) and first aid certification for at least two workers assigned to Work on the Site.

1.7.1.6 Crane Operators/Riggers

Provide Operators, Signal Persons, and Riggers meeting the requirements in 29 CFR 1926 including but not limited to the requirements of 29 CFR 1926, Subpart CC. Provide proof of current qualification.

1.7.2 Personnel Duties

1.7.2.1 Duties of the Safety Officer

The Safety Officer must:

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily production report.

b. Conduct mishap investigations and complete required accident reports. Report mishaps and near misses.

c. Use and maintain OSHA's Form 300 to log work-related injuries and illnesses occurring on the Project Site for Prime Contractors and subcontractors, and make available to the Contracting Officer upon request. Post and maintain the Form 300A on the Site Safety Bulletin Board.

d. Maintain applicable safety reference material on the Project Site.

e. Attend the pre-construction conference, pre-work meetings including preparatory meetings, and periodic in-progress meetings.

f. Review the APP and AHAs for compliance with 29 CFR 1910 and 29 CFR 1926, and approve, sign, implement and enforce them.

g. Establish a Safety and Occupational Health (SOH) Deficiency Tracking System that lists and monitors outstanding deficiencies until resolution.

h. Ensure subcontractor compliance with safety and health requirements.

i. Maintain a list of hazardous chemicals on-site and their material Safety Data Sheets (SDS).

j. Maintain a weekly list of high hazard activities involving energy, equipment, excavation, entry into confined space, and elevation, and be prepared to discuss details during QC Meetings.

k. Provide and keep a record of Site safety orientation and indoctrination for Contractor employees, subcontractor employees, and

Site visitors.

Superintendent, QC Manager, and Safety Officer are subject to dismissal if the above duties are not being effectively carried out. If Superintendent, QC Manager, or Safety Officer are dismissed, Project Work will be stopped and will not be allowed to resume until a suitable replacement is approved and the above duties are again being effectively carried out.

1.7.3 Meetings

1.7.3.1 Preconstruction Conference

a. Contractor representatives who have a responsibility or significant role in accident prevention on the Project must attend the preconstruction conference. This includes the Project superintendent, Site Safety and Occupational Health officer, quality control manager, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).

b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the Contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, and Government review of AHAs to preclude Project delays.

c. Deficiencies in the submitted APP, identified during the Contracting Officer's review, must be corrected, and the APP re-submitted for review prior to the start of construction. Work is not permitted to begin until an APP is established that is acceptable to the Contracting Officer.

1.7.3.2 Initial Meeting

The Contractor shall hold an on-site safety meeting with all employees prior to the Start of Work in order to identify hazards, issue PPE, and discuss safe work practices.

1.7.3.3 Daily Health and Safety Meetings

The Contractor shall conduct a daily Health and Safety Meeting, prior to beginning Work for that day, to address Health and Safety issues, changing Site conditions, activities and personnel. All Contractor and subcontractor employees working on the Site on that day shall attend the meeting. All meetings shall be documented and attendees shall sign acknowledgement of their presence at the meeting. Daily meetings shall include an evaluation of the Work to be conducted, the hazards associated with the Work, and control measures being used to reduce exposure.

Contractor and subcontractor personnel who are not in attendance for the daily Health and Safety meeting shall be briefed on the meeting notes upon arrival at the Site and prior to commencing their Work activities. Employees shall sign acknowledgement of briefings prior to commencing Work.

The Contractor shall hold and document additional safety meetings at the start of each major task and whenever Site conditions affecting personnel safety change.

The Contractor shall inform the Contracting Officer of the time and place of all Daily Health and Safety meetings.

1.7.3.4 Periodic Safety Meetings

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Periodic safety meetings shall be scheduled and conducted at least twice per month until the conclusion of Work. All employees and subcontractors shall be required to attend. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request.

Notify the Contracting Officer of all scheduled Periodic Safety Meetings.

1.8 ACCIDENT PREVENTION PLAN (APP)

A qualified person must prepare the written Site-specific APP. Prepare the APP in accordance with the requirements of 29 CFR 1910 and 29 CFR 1926, and as supplemented herein. Cover all paragraph and subparagraph elements in 29 CFR 1910 and 29 CFR 1926 applicable to the Work. The APP must be job-specific and address any unusual or unique aspects of the Project or activity for which it is written. The APP must interface with the Contractor's overall safety and health program referenced in the APP in the applicable APP element, and made Site-specific. Describe the methods to evaluate past safety performance of potential subcontractors in the selection process. Also, describe innovative methods used to ensure and monitor safe work practices of subcontractors. The Government considers the Prime Contractor to be the "controlling authority" for all Work Site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the Contract and the penalties for noncompliance, coordinating the Work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP must be signed by an officer of the firm (Prime Contractor senior person), the individual preparing the APP, the on-site superintendent, the designated Safety Officer, the Contractor Quality Control Manager, and any designated Certified Safety Professional (CSP) or Certified Health Physicist (CIH). The Safety Officer must provide and maintain the APP and a log of signatures by each subcontractor foreman, attesting that they have read and understand the APP, and make the APP and log available on-site to the Contracting Officer. If English is not the foreman's primary language, the Prime Contractor must provide an interpreter.

Submit the APP to the Contracting Officer within 30 calendar days of Contract Award. Work cannot proceed without an accepted APP. Once reviewed and accepted by the Contracting Officer, the APP and attachments will be enforced as part of the Contract. Disregarding the provisions of this Contract or the accepted APP is cause for stopping of Work, at the discretion of the Contracting Officer, until the matter has been rectified. Continuously review and amend the APP, as necessary,

throughout the life of the Contract. Changes to the accepted APP must be made with the knowledge and concurrence of the Contracting Officer, Project superintendent, Safety Officer and Quality Control Manager. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. Should any severe hazard exposure (e.g., imminent danger) become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate and remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard on-site personnel, visitors, the public (as defined by ASSP A10.34), and the environment.

1.8.1 Names and Qualifications

Provide plans in accordance with the requirements of 29 CFR 1910 and 29 CFR 1926, including the following:

a. Names and qualifications (resumes including education, training, experience and certifications) of Site safety and health personnel designated to perform Work on this Project to include the designated Safety Officer and other competent and qualified personnel to be used. Specify the duties of each position.

b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; and personal protective equipment and clothing to include selection, use and maintenance.

1.8.2 Plans

Provide plans in the APP in accordance with the requirements of 29 CFR 1910 and 29 CFR 1926, including the following:

1.8.2.1 Standard Lift Plan (SLP)

Plan lifts to avoid situations where the operator cannot maintain safe control of the lift. Prepare a written SLP in accordance with 29 CFR 1910 and 29 CFR 1926 for every lift or series of lifts (if duty cycle or routine lifts are being performed). The SLP must be developed, reviewed and accepted by all personnel involved in the lift in conjunction with the associated AHA. Signature on the AHA constitutes acceptance of the plan. Maintain the SLP on the LHE for the current lift(s) being made. Maintain historical SLPs for a minimum of 3 months.

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

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

1.8.2.3 Fall Protection and Prevention (FP&P) Plan

The plan must comply with the requirements of 29 CFR 1926, Subpart M and ASSP Z359.2, be Site specific, and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 6 feet. A competent person or qualified person for fall protection must prepare and sign the plan documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of Work, roles and responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Review and revise, as necessary, the Fall Protection and Prevention Plan documentation as conditions change, but at a minimum every six months, for lengthy Projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Plan documentation at the Project Site for the duration of the Project. Include the Fall Protection and Prevention Plan documentation in the Accident Prevention Plan (APP).

1.8.2.4 Rescue and Evacuation Plan

Provide a Rescue and Evacuation Plan in accordance with applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, OSHA Directive CPL 2.100, ASSP Z359.2, and any other federal, state and local regulatory requirements, and include in the FP&P Plan and as part of the APP. Include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility.

1.8.2.5 Occupant Protection Plan

Identify the safety and health aspects of protecting the general public during construction.

1.8.2.6 Site Demolition Plan

Identify the safety and health aspects, and prepare in accordance with Section 02 41 00 DEMOLITION AND DECONSTRUCTION and referenced sources.

1.9 ACTIVITY HAZARD ANALYSIS (AHA)

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

implemented.

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

1.9.1 AHA Management

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

1.9.2 AHA Signature Log

Each employee performing Work as part of an activity, task or DFOW must review the AHA for that Work and sign a signature log specifically maintained for that AHA prior to starting Work on that activity. The Safety Officer must maintain a signature log on-site for every AHA. Provide employees whose primary language is other than English, with an interpreter to ensure a clear understanding of the AHA and its contents.

1.10 DISPLAY OF SAFETY INFORMATION

1.10.1 Safety Bulletin Board

Within 1 calendar day(s) after commencement of Work, conspicuously erect a safety bulletin board in an area that is readily accessible to all employees on the Project Site. Where size, duration, or logistics of Project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, may be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926 including but not limited to the following:

a. OSHA Job Safety & Health poster.

b. Local emergency medical, fire and rescue telephone numbers.

c. A map denoting the route to the nearest emergency care facility.

d. A copy of the most current Accident Prevention Plan.

e. The Occupational Safety and Health Administration (OSHA) Form 300A.

f. A copy of the Safety and Occupational Health (SOH) Deficiency Tracking log.

g. Date of last workday injury and date of last OSHA recordable injury.

h. A copy of the Hazard Communication (HAZCOM) Program.

Additional items required to be posted on or adjacent to the safety bulletin board include:

a. Any citation issued during an OSHA inspection of the Project Site.

1.10.2 Safety and Occupational Health (SOH) Deficiency Tracking System

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

a. Date deficiency identified;

b. Description of deficiency;

c. Name of person responsible for correcting deficiency;

d. Projected resolution date;

e. Date actually resolved.

1.10.3 Hazard Communication (HAZCOM) Program

The Contractor shall have a written hazard communication program complying with 29 CFR 1910.120 in order to communicate the health hazards associated with all chemicals used or stored at the Project Site.

1.10.3.1 Chemicals

All chemicals shall be labeled or have appropriate warnings affixed. An MSDS shall be maintained and readily available at the Project Site for all chemicals. All employees shall receive training on the hazards of associated chemicals, and in the information contained in a MSDS.

1.10.3.2 Physical Agents

PADS shall be maintained at the Work Sites as required by 8 AAC 61 Article 11. All employees shall receive training on the information contained in a PADS.

1.10.4 Warning Signs

Provide warning signs at the limits of construction stating that access is restricted to authorized personnel and PPE is required. Also provide warning signs to warn pedestrians and drivers to potentially dangerous areas.

1.11 SITE SAFETY REFERENCE MATERIALS

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

1.12 EMERGENCY MEDICAL TREATMENT

Base Kodiak is a "911" response location.

Emergency response procedures including but not limited to emergency contact information (Contracting Officer, Contractor, base fire and

police, hospital, etc.), evacuation routes, route to nearest hospital, management, and reporting are to be presented in the Contractor's Plan.

1.13 NOTIFICATIONS and REPORTS

1.13.1 Mishap Notification

The Contractor shall immediately (within 30 minutes) verbally report to the Contracting Officer the occurrence of any Health and Safety incident. Unless specified otherwise, an Incident Report form or Near-Miss Report shall be submitted within 24 hours of occurrence of the incident or issue.

The Contractor shall immediately and fully investigate any such incident or near-miss and conduct a root cause analysis, and shall submit to the Contracting Officer, the Contractor's written corrective action plan.

In general, formally notify the Contracting Officer as soon as practical, but no more than twenty-four hours, after any mishaps, including recordable accidents, incidents, and near misses, as defined by OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, any report of injury, illness, or any property damage. For LHE or rigging mishaps, notify the Contracting Officer as soon as practical but not more than 4 hours after mishap. The Contractor is responsible for obtaining appropriate medical and emergency assistance and for notifying fire, law enforcement, and regulatory agencies. Immediate reporting is required for electrical mishaps, to include Arc Flash; shock; uncontrolled release of hazardous energy (includes electrical and non-electrical); load handling equipment or rigging; fall from height (any level other than same surface); and underwater diving. These mishaps must be investigated in depth to identify all causes and to recommend hazard control measures.

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

1.13.2 Accident Reports

a. Conduct an accident investigation for recordable injuries and illnesses, property damage, and near misses as defined by OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, to establish the root cause(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

b. Near Misses: Report all "Near Misses" to the Contracting Officer, using standard reporting procedures, within 24 hrs. Near miss reports are considered positive and proactive Contractor safety management actions.

c. Injury or Illness: Within 24 hours of the occurrence of an incident causing an occupational injury or illness, the Contractor shall complete and submit Alaska Department of Labor Form 07-6101, Report of Occupational Injury or Illness. Include a copy of any such submitted reports with the Contract Daily Report to the Contracting Officer.

d. Death or Hospitalization: If an incident involves a work-related fatality or hospitalization of three (3) or more employees, notify the nearest federal and state OSHA area offices by telephone within eight hours, and immediately inform the Contracting Officer.

1.13.3 Additional Reports and Notifications

The Contractor shall notify the Contracting Officer in writing at least 5 days prior to bringing any hazardous material, equipment, or process to the Site, or using the same on the Site.

The Contractor shall maintain on-site a Material Safety Data Sheet (MSDS) for all chemicals brought on to the Site.

The Contractor shall immediately notify the Contracting Officer in writing of any hazard that the Contractor discovers or observes on the Project Site and corrective measures planned or taken to eliminate or minimize such hazard.

1.13.3.1 LHE Inspection Reports

Submit LHE inspection reports required as specified herein with Daily Reports of Inspections.

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

Provide a Certificate of Compliance for LHE entering an activity under this Contract and in accordance with applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926. Post certifications on the crane.

Develop a Standard Lift Plan (SLP) in accordance with applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926 for each lift planned. Submit SLP to the Contracting Officer for approval within 15 calendar days in advance of planned lift.

1.13.4 Violations

Failure to report, or discouraging employees to report occupational injuries or illnesses shall be construed as a blatant disregard for the requirements of this section and may constitute a default condition in the Contract as determined by the Contracting Officer. The Contracting Officer may require the Contractor to report any violation of occupational safety and health regulations to the appropriate federal and/or state agencies.

1.14 HIGH NOISE LEVEL PROTECTION

Use of any such equipment must be approved in writing by the Contracting Officer prior to commencement of Work.

1.15 SEVERE STORM PLAN

The Safety Officer shall monitor local media resources to identify possible severe weather conditions at the Project Site. Site Work may be delayed, postponed, or cancelled due to severe weather based on the Safety Officer discretion.

The Contractor shall perform cold exposure monitoring activities as required by weather conditions. All employees must learn to recognize signs of hypothermia and other weather symptoms, and the appropriate responses.

In the event of a severe storm warning, the Contractor must:

a. Secure outside equipment and materials and place materials that could be damaged in protected areas.

b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.

c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Occupational safety and health of employees is a primary concern of the Government during performance of this Work. Any employee of the Contractor, or employee of a subcontractor hired by the Contractor, who shows willful negligence or a blatant disregard for the requirements of this section shall be subject to immediate dismissal from Government property by the Contracting Officer. Continual or serious violations of the requirements of this section may constitute a default condition in the Contract as determined by the Contracting Officer.

Comply with applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926; NFPA standards NFPA 70, NFPA 70E, NFPA 241; and the APP, the AHA, Federal and State regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

Make provisions prior to the Start of Work for prompt medical attention in case of a serious injury on the Project Site. The Contractor shall maintain adequate first aid supplies in a readily accessible location. The Contractor shall have a means by which to immediately contact local emergency medical personnel.

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

a. Hard Hat

b. Long Pants

c. Appropriate Safety Shoes

d. Appropriate Class Reflective Vests

See EQUIPMENT article below for additional requirements.

3.1.1 Extreme Temperatures

Do not subject workers to an ambient temperature of 120 F or higher nor to an equivalent wind chill temperature of -25 F or lower.

3.1.2 Illumination

Provide a minimum of five (5) foot-candles of illumination for all construction areas where Work is being performed.

3.1.3 Sanitation

Maintain a clean and well maintained Project Site at all time. Rubbish and debris shall be collected and put in appropriate receptacles on a daily basis. Trash receptacles shall be removed from the Project Site and dumped at least once every week.

Provide a sufficient number of toilet facilities for the Project Site. Potable water shall be readily accessible to all employees. Adequate washing facilities shall be provided if any worker is involved with the use, transportation or handling of chemicals.

3.1.4 Worksite Communication

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

3.1.5 Fire Prevention and Protection

Perform all Work in a fire-safe manner. Provide and maintain adequate firefighting equipment during the entire construction period.

Comply with local fire protection ordinances and regulations as required by the authority having jurisdiction. In many cases, the authority having jurisdiction may be the U.S. Coast Guard facility. The Contractor shall have a means by which to immediately contact the local fire/rescue department.

Where the regulations do not apply, comply with the standards of the National Fire Protection Association.

On-site burning of waste is strictly prohibited.

3.1.5.1 Extinguishers

Provide and maintain an adequate number of portable fire extinguishers during the construction period. The Contractor shall provide training in the use of fire extinguishers to all personnel required or permitted to use them.

3.1.5.2 Clear Access

Do not store materials or equipment in a manner that will block access by fire response vehicles nor block access to hydrants.

3.1.6 Storage

Comply with the requirements of Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS.

All unused materials and equipment shall be stored in the designated Contractor storage area. Materials may only be removed from the storage area and laid out 24 hours in advance prior to their incorporation into the Work.

3.1.6.1 Stacks

Limit the height of all material stacks to 10 feet. Allow at least 15 feet between stacks of material.

3.1.6.2 Winds

Tie-down or otherwise secure stored materials against high winds.

3.1.6.3 Liquids

All solvents, petroleum products, flammable and combustible liquids shall be stored in vapor tight containers.

3.1.7 Hazardous Material Use

Each hazardous material must receive approval from the Contracting Officer or their designated representative 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.

3.1.8 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 applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, including but not limited to 29 CFR 1926.53 and 29 CFR 1926.54. such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint, and hexavalent chromium, are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval.

3.1.9 Unforeseen Hazardous or Contaminated Material

Contract documents identify materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (e.g., 29 CFR Part 1910.1000). If material(s) that may be hazardous to human health

upon disturbance are encountered during construction operations, 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.

Hazardous or contaminated materials (if encountered) will be handled of according to all local, state, and federal laws, and the Contract requirements.

3.2 UTILITY OUTAGE REQUIREMENTS

Submit requests for utility outages to the Contracting Officer in accordance with Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS. Where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy.

These activities include, but are not limited to, a review of HECP and HEC procedures, as well as applicable Activity Hazard Analyses (AHAs). In accordance with 29 CFR 1926, Subpart K and NFPA 70E, Work on energized electrical circuits must not be performed without prior Government authorization. Government permission is considered through the permit process and submission of a detailed AHA. Energized Work permits are considered only when de-energizing introduces additional or increased hazard or when de-energizing is infeasible.

3.3 OUTAGE COORDINATION MEETING

After the utility outage request is approved and prior to beginning Work on the utility system requiring shut-down, conduct a pre-outage coordination meeting. This meeting must include the Prime Contractor, the Prime and subcontractors performing the Work, the Contracting Officer, and the Installation representative. All parties must fully coordinate HEC activities with one another. During the coordination meeting, all parties must discuss and coordinate on the Scope of Work, HEC procedures (specifically, the lock-out/tag-out procedures for worker and utility protection), the AHA, assurance of trade personnel qualifications, identification of competent persons, and compliance with HECP training in accordance withrequirements of the applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, including but not limited to 29 CFR 1926, Subpart K.. Clarify when personal protective equipment is required during switching operations, inspection, and verification.

3.4 FALL PROTECTION PROGRAM

Where a worker may fall from a working elevation to a lower elevation greater than a distance of 6 feet or when a worker must climb to a height of more than 24 feet, fall protection shall be provided by guardrails, belt restraint systems, or safety nets.

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

evacuation procedures in accordance with ASSP Z359.2 and applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926.

3.4.1 Training

Institute a fall protection training program. As part of the Fall Protection Program, provide training for each employee who might be exposed to fall hazards and using personal fall protection equipment.

Provide training by a competent person for fall protection in accordance with 29 CFR 1926.503. Document training and practical application of the competent person in accordance with 29 CFR 1926, Subpart M and ASSP Z359.2 in the AHA.

3.4.2 Fall Protection Equipment and Systems

Enforce use of personal fall protection equipment and systems designated (to include fall arrest, restraint, and positioning) for each specific Work activity in the Site Specific Fall Protection and Prevention Plan and AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in 29 CFR 1926, Subpart M.

Provide personal fall protection equipment, systems, subsystems, and components that comply with 29 CFR 1926, Subpart M, ASSP Z359.0, ASSP Z359.1, ASSP Z359.2, ASSP Z359.3, ASSP Z359.4, ASSP Z359.6, ASSP Z359.7, ASSP Z359.11, ASSP Z359.12, ASSP Z359.13, ASSP Z359.14, and ASSP Z359.15.

3.4.2.1 Additional Personal Fall Protection Measures

In addition to the required fall protection systems, other protective measures such as safety skiffs, personal floatation devices, and life rings, are required when working above or next to water in accordance with applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, including but not limited to 29 CFR 1926, Subpart M. Personal fall protection systems and equipment are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall protection systems are required when operating other equipment such as scissor lifts. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, travel, or while performing Work.

3.4.2.2 Personal Fall Protection Equipment

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

short-term relief from the effects of orthostatic intolerance.

3.4.3 Horizontal Lifelines (HLL)

Provide HLL in accordance with 29 CFR 1926, Subpart M. Commercially manufactured horizontal lifelines (HLL) must be designed, installed, certified and used, under the supervision of a qualified person, for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500). The competent person for fall protection may (if deemed appropriate by the qualified person) supervise the assembly, disassembly, use and inspection of the HLL system under the direction of the qualified person. Locally manufactured HLLs are not acceptable unless they are custom designed for limited or Site specific applications by a Registered Professional Engineer who is qualified in designing HLL systems.

3.4.4 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with 29 CFR 1926, Subpart M.

At a minimum, guardrail systems shall be installed at a height of forty-two (42) inches above the top of the work surface, include toe-boards, and be designed and installed as required to restrain a force of 200 pounds.

3.4.5 Rescue and Evacuation Plan and Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue or assisted-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of Work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP). The plan must comply with the requirements of applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, including but not limited to 29 CFR 1926, Subpart M; ASSP Z359.2, and ASSP Z359.4.

3.5 WORK PLATFORMS

Working platforms shall be fully planked with toeboards installed. All planking shall be at least nominal 2x12 Scaffold Grade lumber. Planking shall be secured against slippage off of supports. Overlapped planks shall be laid to have a minimum 12-inch bearing on each end.

3.5.1 Scaffolding

Provide employees with a safe means of access to the Work Area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Comply with the following requirements:

a. No Work shall be done from a scaffold that is wet or icy or during inclement weather. Scaffolds shall not be moved with workers on them.

b. Scaffold platforms greater than 20 feet in height must be accessed by

use of a scaffold stair system.

c. Ladders commonly provided by scaffold system manufacturers are prohibited for accessing scaffold platforms greater than 20 feet maximum in height.

d. An adequate gate is required.

e. Employees performing scaffold erection and dismantling must be qualified.

f. Scaffold must be capable of supporting their own weight plus at least four times the maximum intended load, and provide appropriate fall protection as delineated in the accepted fall protection and prevention plan.

g. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward.

h. Special care must be given to ensure scaffold systems are not overloaded.

i. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited. The first tie-in must be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Scaffolds more than four times higher than the least dimension of the base shall be prevented from tipping by guying, tying, or bracing.

j. Scaffolding other than suspended types must bear on base plates upon wood mudsills (2 in x 10 in x 8 in minimum) or other adequate firm foundation.

k. Scaffold or work platform erectors must have fall protection during the erection and dismantling of scaffolding or work platforms that are more than 6 feet.

l. Delineate fall protection requirements when working above 6 feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of Work.

m. Ladder jack scaffolds shall not exceed 20 feet in height. Pump jack scaffolds shall have two positive gripping mechanisms on each bracket.

Lean-to scaffolds are prohibited.

3.5.2 Elevated Aerial Work Platforms (AWPs)

Workers must be anchored to the basket or bucket in accordance with Manufacturer's Specifications and instructions (anchoring to the boom may only be used when allowed by the manufacturer and permitted by the CP). Lanyards used must be sufficiently short to prohibit worker from climbing out of basket. The climbing of rails is prohibited. Lanyards with built-in shock absorbers are acceptable. Self-retracting devices are not acceptable. Tying off to an adjacent pole or structure is not permitted unless a safe device for 100 percent tie-off is used for the transfer.

Use of AWPs must be operated, inspected, and maintained as specified in the operating manual for the equipment and delineated in the AHA.

Operators of AWPs must be designated as qualified operators by the Prime Contractor. Maintain proof of qualifications on-site for review and include in the AHA.

3.6 EQUIPMENT

The Contractor shall furnish and maintain materials and equipment for the Health and Safety of the Contractor employees, its subcontractors, Suppliers, and visitor personnel. The Contractor shall provide all required Health and Safety equipment, first aid equipment, tools, monitoring equipment, PPE, and ancillary equipment and methods required to ensure workers' Health and Safety and to comply with the Contractor's Accident Prevention Plan.

3.6.1 PPE

The Contractor shall be responsible for providing and maintaining all required personal protective equipment for employees as required in applicable regulations and as indicated below. The Contractor shall also provide such PPE if requested by any worker.

The appropriate level of PPE shall be determined by the Contractor for specific tasks as described in the Contractor's Accident Prevention Plan. If hazards are identified that require a level of protection greater than Level C, Work shall be suspended and the Contracting Officer notified. The Contractor's Accident Prevention Plan, in consultation with the Contracting Officer, shall determine what actions are required prior to restarting Work. The Contractor shall determine and document the appropriateness of suggested minimum PPE requirements for the Contractor's employees and others at the Project Site.

3.6.1.1 Minimum PPE Requirements

Level D protection will be required at all times while on-site by all personnel and visitors on the Site, except in Support Zone areas. Level D PPE consists of:

3.6.1.1.1 Hard Hats

A hard hat shall be worn by all workers and visitors in the immediate vicinity or involved with:

a. Work in the vicinity of overhead hazards

b. Demolition

c. Work on and access to roofs

d. High-voltage work

e. Heavy equipment operation

f. Work on and access to scaffolds or towers.

3.6.1.1.2 Eye Protection

Safety glasses with permanent side shield sor goggles shall be worn by all workers and visitors in the immediate vicinity or involved with:

a. Demolition

b. Hot Work

c. Use of compressed air

d. Spraying operations

e. Use of impact or high-speed rotary tools and equipment

3.6.1.1.3 Hearing Protection

Provide hearing protection to all workers and visitors exposed to a noise level in excess of 84 dba. Provide double hearing protection to all workers and visitors exposed to a noise level in excess of 120 dba.

3.6.1.1.4 Safety Vests

All workers and visitors shall wear high visibility orange reflective safety vests. All exterior workers at night and all flaggers or persons directing traffic shall wear a red and orange safety vest with reflective material.

3.6.1.1.5 Attire

Proper work attire shall be worn by all workers and visitors. Proper work attire includes:

a. Steel-toed boots

b. Work clothes (long pants, shirts with sleeves)

c. Work gloves

3.6.1.2 Level C PPE

If additional protection consisting of Level C PPE is required during the Work, Level C PPE shall include protection from dust particulates, and consist of Level D protection with the following additions:

3.6.1.2.1 Respirators

Respiratory protection shall be worn by all workers exposed to air contaminants in excess of the levels established in Table Z-1-A of 8 AAC 61 Article 11. Air contaminants include dust, smoke, fumes, gases, vapors and carcinogens.

Air-purifying respirators, half-face or full-face (depending on required protection factor), with cartridges meeting NIOSH/Mine Safety and Health Administration Specifications, may be used if:

a. The identity and concentration of the contaminant are known.

b. The respirator is approved for the contaminant and concentration.

c. The oxygen content of the atmosphere is not less than 19.5%.

d. There is periodic air monitoring of the atmosphere.

e. The respirator has been successfully fit tested on the user.

Otherwise, a positive pressure air-supplying respirator or self-contained breathing device shall be used.

All respirators shall be jointly approved by NIOSH.

3.6.1.2.2 Attire

The following are minimum additional Level C PPE attire requirements:

a. Disposable poly-coated chemically protective coveralls

b. Disposable chemically resistant outer gloves (nitrile)

c. Disposable chemically resistant inner gloves (nitrile)

d. Chemically resistant, steel-toed, and steel-shanked boots (PVC, neoprene, or nitrile), or outer booties.

3.6.2 Other Health and Safety Equipment

At a minimum, the Contractor is required to have the following equipment available on the Site for the Health and Safety of Contractor, subcontractors, suppliers, and visitors:

a. First aid kits.

b. Fire suppression equipment (appropriate to location and type of flammable materials present). Equipment will be certified ready for use within the previous twelve months and will also have been inspected each month; documentation supporting certification and inspections will be available for review.

c. Flammable liquids storage cabinet(s), if necessary.

d. Fall protection equipment appropriate for the hazards on the Project Fall Protection. The Accident Prevention Plan shall specifically address, in detail, the fall protection and personal fall arrest system(s) to be employed. Required specifics include the type of fall protection and/or fall arrest systems and components to be employed; controlled access zones, if used; anchor points, if used, including their identification and any relevant calculations and/or equipment standards employed; employee training; rescue plans for personnel suspended in personal fall arrest equipment, if personal fall arrest equipment is employed; and medical assistance for suspension trauma, if personal fall arrest equipment is employed.

e. Heavy blankets.

f. Spill kits.

g. Emergency eyewash facilities meeting OSHA Specifications.

h. Personnel decontamination facilities and equipment.

i. Other equipment or supplies as determined to be necessary or prudent by the Contractor.

3.6.3 Machinery and Mechanized Equipment

a. Proof of qualifications for operator must be kept on the Project Site for review.

b. Manufacturer's specifications or owner's manual for the equipment must be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA. Incorporate such additional safety precautions or requirements into the AHAs.

c. All blades, buckets, rams etc. on hydraulic equipment shall be fully lowered to the ground when not in use.

d. All vehicles shall have an operable parking brake that is set when the vehicle is left unattended.

e. All vehicles used for earthwork, paving, landscaping or any driveable equipment used off-road shall be equipped with an audible back-up alarm.

f. All lifting equipment shall have the safe lifting capacity clearly posted on the equipment.

g. Before service or maintenance is performed on machinery or electrical equipment, the machinery or equipment must be turned off at a power distribution panel or disconnected from the energy source. The energy-isolating device must be rendered inoperative and tagged. This requirement shall also be applicable to work on piping systems and valves. Lockouts or tagouts shall only be removed by the person installing them.

3.6.3.1 Material Handling Equipment (MHE)

a. Material handling equipment such as forklifts must not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions. Material handling equipment fitted with personnel work platform attachments are prohibited from traveling or positioning while personnel are working on the platform.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Material Handling Equipment Operators must be trained in accordance with OSHA 29 CFR 1910, Subpart N.

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

3.6.3.2 Load Handling Equipment (LHE)

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

such operations must be reported.

a. Equip cranes and derricks as specified in 29 CFR 1926, Subpart CC.

b. Notify the Contracting Officer 15 working days in advance of any LHE entering the activity, so that necessary quality assurance spot checks can be coordinated. Prior to cranes entering federal activities, a Crane Access Permit must be obtained from the Contracting Officer. A copy of the permitting process will be provided at the Preconstruction Conference. Contractor's operator must remain with the crane during the spot check. Rigging gear must comply with OSHA, ASME B30.9 Standards safety standards.

c. Comply with the LHE Manufacturer's Specifications and limitations for erection and operation of cranes and hoists used in support of the Work. Perform erection under the supervision of a designated person (as defined in ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.

d. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices and ASME B30.26 for rigging hardware.

e. When operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of 29 CFR 1926, Subpart CC, 29 CFR 1926, Subpart K, and ASME B30.5 or ASME B30.22 as applicable.

f. Do not use crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the Work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane. Additionally, submit a specific AHA for this Work to the Contracting Officer. Ensure the activity and AHA are thoroughly reviewed by all involved personnel.

g. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.

h. All employees must keep clear of loads about to be lifted and of suspended loads, except for employees required to handle the load.

i. Use cribbing when performing lifts on outriggers.

j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

k. A physical barricade must be positioned to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.

l. Maintain inspection records in accordance with 29 CFR 1926, Subpart CC, including shift, monthly, and annual inspections, the signature of the person performing the inspection, and the serial number or other identifier of the LHE that was inspected. Records must be available for review by the Contracting Officer.

m. Maintain written reports of operational and load testing in accordance with 29 CFR 1926, Subpart CC, listing the load test procedures used along with any repairs or alterations performed on the LHE. Reports must be available for review by the Contracting Officer.

n. Certify that all LHE operators have been trained in proper use of all safety devices (e.g., anti-two block devices).

o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. At wind speeds greater than 20 mph, the operator, rigger and lift supervisor must cease all crane operations, evaluate conditions and determine if the lift may proceed. Base the determination to proceed or not on wind calculations per the manufacturer and a reduction in LHE rated capacity if applicable. Include this maximum wind speed determination as part of the activity hazard analysis plan for that operation.

p. On mobile cranes, lifts where the load weight is greater than 90 percent of the equipment's capacity are prohibited.

3.6.4 Use of Explosives

The on-site storage of explosives or blasting agents is strictly prohibited.

Explosives must not be used or brought to the Project Site without prior written approval from the Contracting Officer.

3.6.5 Equipment and Facilities

The Contractor shall provide all equipment, temporary facilities, and personnel required to perform activities on-site safely in accordance with Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, all Laws and Regulations and standards, and with the Contractor's Accident Prevention Plan.

3.6.5.1 Engineering Controls

The Contractor shall, at a minimum, provide the following engineering controls to reduce the hazards of equipment operation and exposure to Project Site hazardous chemicals:

a. Back-up alarms for all trucks and moving equipment

b. Temporary fencing to control access

c. Barricades for worker and public safety

d. Additional lighting as needed

e. Others as determined to be necessary or prudent by the Contractor.

3.6.5.2 Ladders

Only manufactured and rated ladders shall be used by the Contractor. Any damaged ladder shall be immediately removed from service. Ladders in excess of 35 feet shall not be used.

Ladders shall not be heeled at an angle less than 75% from the vertical.

Ladders shall extend at least three feet above a landing. No Work shall be done from a ladder that is wet or icy or during inclement weather.

3.7 ELECTRICAL

Perform Electrical Work in accordance with the requirements of applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, including but not limited to 29 CFR 1926, Subpart K..

3.7.1 Grounding

Ground electrical circuits, equipment and enclosures in accordance with NFPA 70 and IEEE C2 to provide a permanent, continuous and effective path to ground unless otherwise noted by 29 CFR 1926, Subpart K.

Check grounding circuits to ensure that the circuit between the ground and a grounded power conductor has a resistance low enough to permit sufficient current flow to allow the fuse or circuit breaker to interrupt the current.

3.7.2 Testing

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

3.7.3 Power Tools

All cord-and-plug portable tools and equipment shall be grounded or double insulated and labeled with the appropriate UL seal. The Contractor shall use either ground fault circuit interrupters or an assured equipment grounding conductor program, as specified in 29 CFR 1926.404, for all power tools.

3.7.4 Extension Cords

All extension cords shall be the three-wire grounding type. Worn, frayed or cut electrical cords and cables shall not be spliced nor repaired, but instead shall be removed from service and replaced. The Contractor shall use either ground fault circuit interrupters or an assured equipment grounding conductor program, as specified in 29 CFR 1926.404, for all power tools.

3.7.5 Temporary Receptacles

Provide GFCI protection for all 120-volt, single phase temporary power receptacles. Receptacles shall be considered to be temporary, if they serve 120-volt (nominal) portable equipment used by the Contractor in performance of this Contract.

3.7.6 Overhead Lines

For all Work, keep a minimum of ten (10) feet away from overhead power lines, otherwise contact the local utility and have the power secured to such lines.

3.7.7 Wet Locations

Do not use electrical tools when working in wet areas, including boats, rafts, and construction floats, wet excavations, or when an energized tool can be dropped into water. Utilize pneumatic tools for these locations.

-- End of Section --

SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS
11/21

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the Specifications to establish requirements for the Work. The reference publications form a part of this Specification to the extent referenced. These references are identified in each section by basic designation only within the text, and by document number, date and title in the REFERENCES article. The document number used in the citation is the number assigned by the standards producing organization (e.g., ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes. **Unless directed otherwise by the Contracting Officer, use the latest editions of all referenced publications in effect at the time of the Project Contract Award.**

1.2 ORDERING INFORMATION

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

ALUMINUM ASSOCIATION (AA)
1400 Crystal Drive
Suite 430
Arlington, VA 22202
Ph: 703-358-2960
E-Mail: info@aluminum.org
Internet: https://www.aluminum.org/

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)
1900 E Golf Rd, Suite 1250
Schaumburg, IL 60173
Ph: 847-303-5664
E-mail: customerservice@aamanet.org
Internet: https://aamanet.org/

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)
1330 Kemper Meadow Drive
Cincinnati, OH 45240
Ph: 513-742-2020
Fax: 513-742-3355
Internet: https://www.acgih.org/

AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC)
7012 South Revere Parkway, Suite 140
Centennial, CO 80112
Ph: 503-639-0651

Fax: 503-684-8928
E-mail: mschoen@wclib.org
Internet: http://www.aitc-glulam.org

AMERICAN IRON AND STEEL INSTITUTE (AISI)
25 Massachusetts Avenue, NW Suite 800
Washington, DC 20001
Ph: 202-452-7100
Internet: https://www.steel.org/

AMERICAN LUMBER STANDARDS COMMITTEE (ALSC)
7470 New Technology Way, Suite F
Frederick, MD 21703
Ph: 301-972-1700
Fax: 301-540-8004
E-mail: alsc@alsc.org
Internet: http://www.alsc.org

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
1899 L Street, NW,11th Floor
Washington, DC 20036
Ph: 202-293-8020
Fax: 202-293-9287
E-mail: storemanager@ansi.org
Internet: https://www.ansi.org/

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

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)
1791 Tullie Circle, NE
Atlanta, GA 30329
Ph: 404-636-8400 or 800-527-4723
Fax: 404-321-5478
E-mail: ashrae@ashrae.org
Internet: https://www.ashrae.org/

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Two Park Avenue
New York, NY 10016-5990
Ph: 800-843-2763
Fax: 973-882-1717
E-mail: customercare@asme.org
Internet: https://www.asme.org/

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

AMERICAN WATER WORKS ASSOCIATION (AWWA)
6666 W. Quincy Avenue
Denver, CO 80235 USA

Ph: 303-794-7711 or 800-926-7337
Fax: 303-347-0804
Internet: https://www.awwa.org/

AMERICAN WELDING SOCIETY (AWS)
8669 NW 36 Street, #130
Miami, FL 33166-6672
Ph: 800-443-9353
Internet: https://www.aws.org/

AMERICAN WOOD COUNCIL (AWC)
222 Catoctin Circle SE, Suite 201
Leesburg, VA 20175
Ph: 800-890-7732
Fax: 412-741-0609
E-mail: publications@awc.org
Internet: https://www.awc.org/

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)
P.O. Box 361784
Birmingham, AL 35236-1784
Ph: 205-733-4077
Fax: 205-733-4075
Internet: http://www.awpa.com

APA - THE ENGINEERED WOOD ASSOCIATION (APA)
7011 South 19th St.
Tacoma, WA 98466-5333
Ph: 253-565-6600
Fax: 253-565-7265
Internet: https://www.apawood.org/

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

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH (CDPH)
PO Box 997377, MS 0500
Sacramento, CA 95899-7377
Ph: 916-558-1784
Internet: https://www.cdph.ca.gov/

CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)
1600 Clifton Road
Atlanta, GA 30329-4027
Ph: 800-232-4636
TTY: 888-232-6348
Internet: https://www.cdc.gov

FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH (FCCCHR)
USC Foundation Office
Research Annex 219
Los Angeles, CA 90089-7700

Ph: 866-545-6340
Fax: 213-740-8399
E-mail: fccchr@usc.edu
Internet: https://fccchr.usc.edu/

GLASS ASSOCIATION OF NORTH AMERICA (GANA)
National Glass Association
1945 Old Gallows Rd., Suite 750
Vienna, VA 22182
Ph: 866-342-5642
Ph: 703-442-4890
Fax: 703-442-0630
Internet: http://www.glasswebsite.com

GYPSUM ASSOCIATION (GA)
962 Wayne Ave., Suite 620
Silver Spring, MD 20910
Ph: 301-277-8686
Fax: 301-277-8747
E-mail: info@gypsum.org
Internet: https://www.gypsum.org/

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

INSULATING GLASS MANUFACTURERS ALLIANCE (IGMA)
27 N. Wacker Dr. Suite 365
Chicago, IL 60606-2800
Ph: 613-233-1510
Fax: 613-482-9436
E-mail: enquiries@igmaonline.org
Internet: https://www.igmaonline.org/

INTERNATIONAL CODE COUNCIL (ICC)
500 New Jersey Avenue, NW
6th Floor, Washington, DC 20001
Ph: 800-786-4452 or 888-422-7233
Fax: 202-783-2348
E-mail: order@iccsafe.org
Internet: https://www.iccsafe.org/

MASTER PAINTERS INSTITUTE (MPI)
2800 Ingleton Avenue
Burnaby, BC CANADA V5C 6G7
Ph: 1-888-674-8937
Fax: 1-888-211-8708
E-mail: info@paintinfo.com or techservices@mpi.net
Internet: http://www.mpi.net/

NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM)
800 Roosevelt Road, Bldg C, Suite 312
Glen Ellyn, IL 60137
Ph: 630-942-6591
Fax: 630-790-3095

E-mail: info@naamm.org
Internet: http://www.naamm.org

NATIONAL FENESTRATION RATING COUNCIL (NFRC)
6305 Ivy Lane, Suite 140
Greenbelt, MD 20770
Ph: 301-589-1776
Fax: 301-589-3884
E-Mail: info@nfrc.org
Internet: http://www.nfrc.org

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

NATIONAL HARDWOOD LUMBER ASSOCIATION (NHLA)
6830 Raleigh LaGrange Road
PO Box 34518
Memphis, TN 38184
Ph: 901-377-1818
Internet: https://nhla.com/

NORTHEASTERN LUMBER MANUFACTURERS ASSOCIATION (NELMA)
272 Tuttle Road
Cumberland, ME 04021
Ph: 207-829-6901
Fax: 207-829-4293
E-mail: info@nelma.org
Internet: https://www.nelma.org/

REDWOOD INSPECTION SERVICE (RIS) OF THE CALIFORNIA REDWOOD ASSOCIATION (CRA)
818 Grayson Road, Suite 201
Pleasant Hill, CA 94523
Ph: 925-935-1499
Fax: 925-935-1496
Internet:
https://www.wwpa.org/about-wwpa/redwood-inspection-service

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
4201 Lafayette Center Drive
Chantilly, VA 20151-1219
Ph: 703-803-2980
Fax: 703-803-3732
Internet: https://www.smacna.org/

SOCIETY FOR PROTECTIVE COATINGS (SSPC)
800 Trumbull Drive
Pittsburgh, PA 15205
Ph: 877-281-7772 or 412-281-2331
Fax: 412-444-3591
E-mail: customerservice@sspc.org
Internet: http://www.sspc.org

SOUTHERN PINE INSPECTION BUREAU (SPIB)
P.O. Box 10915
Pensacola, FL 32524-0915
Ph: 850-434-2611 or 800-995-7742
Fax: 850-434-1290
E-mail: spib@spib.org
Internet: https://www.spib.org/

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
1200 Pennsylvania Avenue, N.W.
Washington, DC 20004
Ph: 202-564-4700
Internet: https://www.epa.gov
--- Some EPA documents are available only from:
National Technical Information Service (NTIS)
5301 Shawnee Road
Alexandria, VA 22312
Ph: 703-605-6060 or 1-800-363-2068
Fax: 703-605-6880
TDD: 703-487-4639
E-mail: info@ntis.gov
Internet: https://www.ntis.gov/

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)
Order for sale documents from:
Superintendent of Documents
U.S. Government Publishing Office (GPO)
732 N. Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800 or 866-512-1800
Bookstore: 202-512-0132
Internet: https://www.gpo.gov/
Order free documents from:
U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
Ph: 866-835-5322
Internet: https://www.faa.gov/

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)
1200 New Jersey Ave., SE
Washington, DC 20590
Ph: 202-366-4000
E-mail: ExecSecretariat.FHWA@dot.gov
Internet: https://www.fhwa.dot.gov/
Order from:
Superintendent of Documents
U.S. Government Publishing Office (GPO)
732 N. Capitol Street, NW
Washington, DC 20401
Ph: 202-512-1800 or 866-512-1800
Bookstore: 202-512-0132
Internet: https://www.gpo.gov/

U.S. GENERAL SERVICES ADMINISTRATION (GSA)
General Services Administration
1800 F Street, NW
Washington, DC 20405

Ph: 1-844-472-4111
Internet: https://www.gsaelibrary.gsa.gov/ElibMain/home.do
Obtain documents from:
Acquisition Streamlining and Standardization Information System (ASSIST)
Internet: https://assist.dla.mil/online/start/; account registration required

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

WEST COAST LUMBER INSPECTION BUREAU (WCLIB)
6980 S.W. Varns
Tigard, OR 97223
Ph: 503-639-0651
Fax: 503-684-8928
E-mail: info@wclib.org
Internet: http://www.wclib.org

WESTERN WOOD PRODUCTS ASSOCIATION (WWPA)
1500 SW First Ave., Suite 870
Portland, OR 97201
Ph: 503-224-3930
E-mail: info@wwpa.org
Internet: http://www.wwpa.org

WINDOW AND DOOR MANUFACTURERS ASSOCIATION (WDMA)
2025 M Street, NW, Suite 800
Washington, DC 20036-3309
Ph: 202-367-1157
or
330 N Wabash Avenue, Suite 2000
Chicago, IL 60611
Ph: 312-321-6802
E-mail: membersupport@wdma.com
Internet: https://www.wdma.com/

WOOD MOULDING AND MILLWORK PRODUCERS ASSOCIATION (WMMPA)
507 First Street
Woodland, CA 95695
Ph: 530-661-9591
Fax: 530-661-9586
E-mail: info@wmmpa.com
Internet: https://www.wmmpa.com/

ALASKA ADMINISTRATIVE CODE (AAC)
Internet: http://www.legis.state.ak.us/basis/aac.asp

CITY OF KODIAK (KODIAK)
Public Works
2410 Mill Bay Road
Kodiak, AK 99615
Ph: 907-486-8065
Fax: 907-486-8066
Internet: http://www.city.kodiak.ak.us/publicworks

FEDERAL ACQUISITION REGULATIONS (FAR)
Internet: https://www.acquisition.gov/browsefar

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

-- End of Section --

SECTION 01 45 00

QUALITY CONTROL
08/21

PART 1 GENERAL

1.1 WORK COVERED

Quality Control is the responsibility of the Contractor. Establish a method for monitoring the Work to ensure compliance with Contract requirements. Quality Control will be administered under Contract Clause FAR 52.246-12, Inspection of Construction. Provide a separate dedicated, full time, Quality Control Manager on-site dedicated to insuring conformance with the Contract requirements. The Quality Control Manager is defined by this section as the Contractor's Quality Control Manager. The Quality Control Manager must keep separate files on the Quality Assurance and Quality Control actions taken. These files should include internal non-compliance records, verification of material compliance with the approved submittals, verification of compliance with testing requirements, and remedial direction provided for non-compliant Work. These files must be made available to the Contracting Officer for review upon request. Failure to perform Quality Control will result in removal of the Quality Control Manager, and the Contractor must provide a replacement at no cost to the Government.

Submit a management system indicating the Quality Control Manager's reporting role that demonstrates the Quality Control Manager's performance reviews are separate from the specific Project profitability and schedule and are tied to corporate goals of safety and a quality product.

The objective is to guarantee performance of the Work to the required Contract standards for materials, workmanship, construction, finish, functional performance and identification. Quality control requirements apply to both on-site and off-site fabrication, all construction materials and operations, and specifically includes all required inspections, tests and submittals.

Note: For an activity to be considered one-hundred percent complete the required testing must be complete and the Work must fully comply with the Contract requirements.

1.2 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM D3740	(2019) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E329	(2020) Standard Specification for Agencies Engaged in Construction Inspection,

Testing, or Special Inspection

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.211-10	Commencement, Prosecution, and Completion of Work
FAR 52.246-12	Inspection of Construction

1.3 PAYMENT

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

1.4 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Contractor Quality Control Plan

SD-06 Test Reports

Verification Statement

SD-07 Certificates

Laboratory Accreditation And Validation

SD-11 Closeout Submittals

Field Testing Log

PART 2 PRODUCTS

A copy of all approved product submittals shall be kept and maintained on-site by the Contractor. Products delivered on-site shall be the same as those indicated on approved submittals. Submittals shall be made available to the Contracting Officer upon request.

Before incorporation into the Work, the Contractor shall inspect all products to ensure conformance with the requirements of the Contract Drawings and Specifications.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Establish and maintain an effective Quality Control (QC) system that complies with FAR 52.246-12 Inspection of Construction. QC consist of plans, procedures, and organization necessary to produce an end product which complies with the Contract requirements. The QC system covers all construction operations, both on-site and off-site, and be keyed to the proposed construction sequence. The Project Superintendent will be held responsible for the quality of Work and is subject to removal by the

Contracting Officer for non-compliance with the quality requirements specified in the Contract. In this context the highest level manager responsible for the overall construction activities at the Site, including quality and production is the Project Superintendent. The Project Superintendent maintains a physical presence at the Site at all times and is responsible for all construction and related activities at the Site, except as otherwise acceptable to the Contracting Officer.

3.2 CONTRACTOR QUALITY CONTROL PLAN

The Quality Control Plan shall clearly define the intended method to maintain Quality Control during construction phases of this Contract. Indicate the prior experience of all key individuals responsible for Quality Control. Describe the intended flow of information and key check points that will provide the quality on this Project.

Submit at least 14 days prior to the Pre-Construction Conference, the Contractor Quality Control Plan proposed to implement the requirements FAR 52.246-12 Inspection of Construction. The Government will consider an interim plan for the first 14 days of operation. Construction will be permitted to begin only after acceptance of the Quality Control Plan or acceptance of an interim plan applicable to the particular feature of Work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a Quality Control Plan or another interim plan containing the additional Work.

3.2.1 Content of the Quality Control Plan

Include, as a minimum, the following to cover all construction-operations, both on-site and off-site, including Work by subcontractors, fabricators, suppliers and purchasing agents:

a. A description of the Quality Control organization, including a chart showing lines of authority and acknowledgment that the Quality Control staff will implement the three phase control system for all aspects of the Work specified.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a Quality Control function.

c. A copy of the letter to the Quality Control Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the Quality Control Manager, including authority to stop Workwhich is not in compliance with the Contract. Letters of direction to all other various Quality Control representatives outlining duties, authorities, and responsibilities will be issued by the Quality Control Manager. Furnish copies of these letters to the Contracting Officer.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents. These procedures must be in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, Specification paragraph requiring test, feature of Work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by

the Contracting Officer are required to be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish verification procedures that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of Work. A definable feature of Work is a task which is separate and distinct from other tasks, has separate control requirements, and is identified by different trades or disciplines, or it is Work by the same trade in a different environment. Although each section of the Specifications can generally be considered as a definable feature of Work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance

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

3.2.3 Notification of Changes

After acceptance of the Quality Control Plan, notify the Contracting Officer in writing of any proposed change, including changes in the QC organization personnel, prior to a proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.2.3.1 Requests for Variations

Variations are changes to Contractor's approved design or construction processes that do not affect compliance with meeting terms of the Contract or request for proposal. Complete the Request for Variations form and submit to the Contracting Officer. This form is provided as an Appendix to this Specification. Provide a record of all variations to ensure the as-built documents are accurate.

3.2.3.2 Requests for Deviations

Deviations are requests for changes to the Contract terms that must be authorized by the Contracting Officer and a formal change order issued before they may be implemented. Complete the Request for Deviations form and submit to the Contracting Officer for review and approval. This form is provided as an Appendix to this Specification. Provide a record of all deviations to ensure the as-built documents are accurate.

3.3 COORDINATION MEETING

Prior to acceptance by the Government of the Quality Control Plan, meet

with the Contracting Officer via teleconference and discuss the Contractor's Quality Control system. During the meeting, a mutual understanding of the system details must be developed, including the forms for recording the Quality Control operations, control activities, testing, administration of the system for both on-site and off-site Work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting will be prepared by the Contractor, and shall be signed by both the Contractor and the Contracting Officer and will become a part of the Contract file. There can be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings or address deficiencies in the Quality Control system or procedures which can require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The Contractor shall utilize skilled labor applicable to the trade being performed. Ensure required qualifications or certifications are current and maintained.

The requirements for the Quality Control organization are a Project Manager, Superintendent, Safety Officer, Quality Control Manager, and sufficient number of additional qualified personnel to ensure safety and Contract compliance. The Safety Officer reports directly to a senior Project (or corporate) official independent from the Quality Control Manager. The Safety Officer will also serve as a member of the Quality Control Staff Personnel identified in the technical provisions as requiring specialized skills to assure the required Work is being performed properly will also be included as part of the Quality Control organization. The Contractor's Quality Control staff maintains a presence at the Site at all times during progress of the Work and have complete authority and responsibility to take any action necessary to ensure Contract compliance. The Quality Control staff will be subject to acceptance by the Contracting Officer. Provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional Quality Control organization. Promptly complete and furnish all letters, material submittals, Shop Drawing submittals, schedules and all other Project documentation to the Quality Control organization. The Quality Control organization is responsible to maintain these documents and records at the Site at all times, except as otherwise acceptable to the Contracting Officer.

The Government reserves the right to accept or reject any team member substitution after award of this Contract. Changes to the construction personnel and personnel listed under this section require Contracting Officer's approval.

3.4.2 Project Manager (PM)

The Project Manager must have experience managing at least 3 prior construction Projects of a similar size and complexity as this Project as the Project Manager. The PM must demonstrate prior experience managing both design and construction Contracts as direct management in construction Contracts.

3.4.3 Superintendent

The superintendent must have experience managing at least 3 prior construction Projects of a similar size and complexity as this Project as a superintendent.

3.4.4 Quality Control Manager

Identify as Quality Control Manager an individual within the on-site Work organization that is responsible for overall management of Quality Control and has the authority to act in all Quality Control matters for the Contractor. The Quality Control Manager is required to be a construction person with a minimum of 3 years in related Work. This Quality Control Manager is on the Site at all times during construction and is employed by the prime Contractor. The Quality Control Manager is assigned no other duties and may not be the same person as the Superintendent or Project Manager. Identify in the plan an alternate to serve in the event of the Quality Control Manager's absence. The requirements for the alternate are the same as the Quality Control Manager.

The Quality Control Manager must submit proof of successful completion of at least 3 construction Projects of a similar size and complexity as this Project where his/her role was as a Quality Assurance/Control Manager over the construction phases. The Quality Control Manager must report directly to the principles of the company not to the on-site Superintendent.

3.4.5 Organizational Changes

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

3.5 SUBMITTALS AND DELIVERABLES

Submittals, shall comply with the requirements in Section 01 33 00 SUBMITTAL PROCEDURES. The Quality Control organization is responsible for certifying that all submittals and deliverables are in compliance with the Contract requirements.

The Contractor may also be required to prepare an Air Monitoring Plan as part of the Work. The Air Monitoring plan shall include procedures in accordance with OSHA requirements for conducting personal air monitoring for Contractor and their subcontractor personnel that may be potentially exposed to contaminated soils and water.

3.5.1 Contractor's Daily Construction Reports

The Contractor shall fill out Daily Reports using Form CM-03. A sample form is provided as an Appendix to this Specification. Submit copies of the report to the Contracting Officer by 8:00 a.m. on the first work day after the day the Work was performed. E-mail a copy directly to the Contracting Officer. Include the description and activity number from the accepted progress schedule, and the actual start and finish dates for the Work performed. Sample forms will be provided to the Contractor electronically.

3.5.2 Test Results

3.5.2.1 Test Reports

Record results of all tests, inspections, and sampling taken, both passing and failing, on the Quality Control report and the Daily Construction Report, and submit separate reports for, each field test, inspection, or sampling conducted.

Test Reports, including but not limited to Factory Test Reports, Field Test Reports, and Field Inspection Reports, must comply with Section 01 33 00 SUBMITTAL PROCEDURES as well as the applicable technical Specification Section for the component of the Work being inspected or tested. In addition, the report shall cite the Contract requirements, the test, inspection, or analysis procedures used, and the actual test results. For each report, stamp conspicuously on the cover sheet in large red letters "CONFORMS" or "DOES NOT CONFORM." Reports must be signed by the authorized representative of the testing laboratory. Indicate the following information on the report:

a. Specification Section and Paragraph Number

b. Name of the Test, Inspection, or Sampling

c. Location of Test. Inspection, or Sampling (provide sketch if necessary to clearly document location at the Site)

d. Name of Inspector/Technician

e. Name of Laboratory, if applicable

f. Date and Time of the Test, Inspection, or Sampling

g. Minimum Requirements/Acceptable Test, Inspection, or Sampling Results

h. Actual Test, Inspection, or Sampling Results

i. Repeated Inspections, Tests, Inspections, or Sampling

j. Statement indicating whether or not the Work meets the specified requirement

If approved by the Contracting Officer, actual Test Reports are submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an off-site or commercial test facility directly to the Contracting Officer. Failure to submit timely test reports as stated results in nonpayment for related Work performed and disapproval of the test facility for this Contract.

3.5.3 Field Testing Log

Review the Project documents and prepare a list of the required field tests. Submit this annotated log with your other Preconstruction submittals. Include all required Laboratory Accreditation and Validation Certificates. Tie the testing into the Project Schedule Baseline. The Testing Log shall be signed by the Quality Control Manager

Consider this list an As-Built for the Contract and maintain it daily as a log of testing. In the event of a discrepancy between the list and the

Contract documents, the Contract documents take precedence. Submit the As-Built test log at Final Inspection. At a minimum, the log shall include the following information for each test, inspection, or sampling:

a. Reference to all Daily Construction Reports and Quality Control Reports with associated Test, Inspection, or Sampling Data

b. Specification Section and Paragraph Number

c. Name and Type of Test, Inspection, or Sampling

d. Results of Test, Inspection, or Sampling

e. Statement of Conformance or Nonconformance with Contract Requirements

f. Quality Control Manager's Signature

3.5.4 Notification of Non-Compliance

Non-compliant Work on any activity can be halted by the Contracting Officer. Payment shall not be made for an activity that is non-compliant.

The Contracting Officer will notify the Contractor of any detected non-compliance with the foregoing requirements. The Contractor must take immediate corrective action. If the contractor fails or refuses to correct the non-compliant work, the Contracting Officer will issue a non-compliance notice. Such notice, when delivered to the Contractor at the work site, must be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor must make no part of the time lost due to such stop orders the subject of claim for extension of time, for excess costs, or damages.

Payment shall not be made on any portion of the Work for which a nonconformance notice has been issued and the Work not corrected to the satisfaction of the Contracting Officer when a notice is issued by the Contracting Officer documenting that the Work, or some portion thereof, has not been performed in accordance with the requirements of the Contract documents. Upon receipt of a Nonconformance Notice, the Contractor shall provide a written response within 2 days. The Contractor's response shall detail either (a) why they believe that the Work was performed in accordance with the Contract documents, or (b) what corrective action they intend to take, at their sole expense, to correct the nonconforming Work. If the Contractor disputes issuance of the notice, the Government will respond by either (a) withdrawing the Notice of Nonconformance or (b) directing the Contractor to correct the Work. If directed to correct the Work, the Contractor shall do so within 7 days after receipt of such direction from the Contracting Officer, or such other time as may be agreed to with the Contracting Officer.

3.6 CONTROL

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

3.6.1 Preparatory Phase

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

a. A review of each paragraph of applicable Specifications, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the Work to be accomplished in the field. Maintain and make available in the field for use by Government personnel until final acceptance of the Work.

b. Review of the Contract Drawings.

c. Check to assure that all materials and equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the Work Area to assure that all required preliminary Work has been completed and is in compliance with the Contract.

f. Examination of required materials, equipment, and sample Work to assure that they are on hand, conform to approved Shop Drawings or submitted data, and are properly stored.

g. Review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the Work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of Work.

i. Check to ensure that the portion of the plan for the Work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government needs to be notified in advance of beginning the preparatory control phase. Include a meeting conducted by the Quality Control Manager and attended by the superintendent, other Quality Control personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the Quality Control Manager and attach to the daily Quality Control report. Instruct applicable workers as to the acceptable level of workmanship required in order to meet Contract Specifications.

3.6.2 Initial Phase

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

a. Check Work to ensure that it is in full compliance with Contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full Contract compliance.

Verify required control inspection and testing are in compliance with the Contract.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government needs to be notified in advance of beginning the initial phase for definable feature of Work. Prepare separate minutes of this phase by the Quality Control Manager and attach to the daily Quality Control report. Indicate the exact location of initial phase for definable feature of Work for future reference and comparison with follow-up phases.

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

3.6.3 Follow-up Phase

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

3.6.4 Additional Preparatory and Initial Phases

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

3.7 TESTS

Unless otherwise stated herein all required sampling and testing shall be by the Contractor at their own expense. All tests shall be performed using specified testing procedures, or if no procedure is specified, the standard testing procedure used by the ASTM will be used. The Contractor shall notify the Contracting Officer when such testing will be performed so that the test may be observed by the Contracting Officer and/or designated representatives. In addition to the specified testing requirements herein, the Government may perform additional verification testing at its own expense. All necessary samples and/or Work associated with such samples for such testing shall be provided by the Contractor at no additional cost to the Government.

Unless otherwise specified, certified tests performed earlier than one year prior to the Contract Award date are not acceptable.

3.7.1 Testing Procedure

The Contractor shall furnish all equipment, instruments, qualified personnel, and facilities, and test fluids and gases, and perform all inspections, sampling, testing, and certifications specified in the individual sections. Provide the services of independent testing laboratories, subject to the Contracting Officer's approval, to perform all specified inspection and testing.

Notify the Contracting Officer at least 48 hours in advance of the dates and times scheduled for all field tests and inspections. The Contractor shall be required to coordinate inspections and testing at the convenience of the Government. The Contracting Officer need not be present during inspection or tests, but the Contracting Officer may require inspections or tests to be scheduled at a date and time when the Contracting Officer will be able to witness such activities.

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

a. Verify that testing procedures comply with Contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Repeat tests and inspections after each correction made to nonconforming materials and workmanship until tests and inspections indicate the materials, equipment, and workmanship meet Contract requirements. Repeated tests and inspections shall be performed at no additional cost to Government.

f. Do not cover or conceal Work until required tests and inspection results indicate that the Work conforms to Contract requirements.

3.7.2 Testing Laboratories

Provide an independent construction materials testing laboratory accredited by a laboratory accreditation authority to perform tests, inspections, or sampling required by this Contract. 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. The laboratory's Scope of Accreditation must include the appropriate ASTM standards (e.g., E 329, C 1077, D 3666, D 3740, A 880, E 543, etc.) listed in the technical sections of the Specifications. At a minimum, testing laboratories shall

meet the following requirements:

a. Laboratories performing tests on electrical components and systems must be certified by the National Electrical Testing Association.

b. Laboratories engaged in testing of construction materials shall meet the requirements of ASTM E329.

c. Laboratories engaged in Hazardous Materials Testing shall meet the requirements of OSHA and EPA. In addition, the laboratories shall meet all of the requirements of Alaska Department of Environmental Conservation (ADEC). The policy applies to the specific laboratory performing the actual testing, not just the Corporate Office.

d. Laboratories must be in compliance with the above, and where specified, other listed ASTM references, and must maintain a full-time registered engineer on staff to review the required services. Calibrate testing equipment at reasonable intervals with devices of an accuracy conforming to NIST or industry standards.

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the Contract Specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel is required to meet criteria detailed in ASTM D3740 and ASTM E329.

3.7.2.2 Capability Recheck

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

3.7.3 On-site Laboratory

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

3.8 COMPLETION INSPECTION

Allow the Contracting Officer access to all Work for inspection. Do not conceal, cover, or enclose Work until the Contracting Officer has had an opportunity to inspect the Work, or as approved.

Submit a Discrepancies and Omissions list (Punch List) after Punch-Out, Pre-Final, and Final Inspection. The Punch List is not an all-inclusive listing of discrepancies which exist between the Contract Specifications and the Work as performed up to the date of the list. It is also not a waiver of any other Government Claim. The Government at all times reserves all of its rights and remedies under the Contract.

3.8.1 Punch-Out Inspection

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

3.8.2 Pre-Final Inspection

The Government will perform the Pre-Final Inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. Ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Correct any items noted on the Pre-Final inspection in a timely manner. These inspections and any deficiency corrections required by this paragraph need to be accomplished within the time slated for completion of the entire Work or any particular increment of the Work if the Project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

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

Final completion and acceptance of Work performed under this Contract will be established by a written notice of acceptance issued by the Contracting Officer.

3.9 DOCUMENTATION

3.9.1 Quality Control Activities

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

a. The name and area of responsibility of the Contractor/subcontractor.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of Work performed each day by NAS activity number.

d. Test and control activities performed with results and references to Specifications/Drawings requirements. Identify the control phase (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the Site with statement as to acceptability, storage, and reference to Specifications/Drawings requirements.

f. Submittals and deliverables reviewed, with Contract reference, by whom, and action taken.

g. Off-site surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and Specifications.

3.9.2 Verification Statement

Indicate a description of trades working on the Project; the number of personnel working; weather conditions encountered; and any delays encountered. Cover both conforming and deficient features and include a statement that equipment and materials incorporated in the Work and workmanship comply with the Contract. Furnish the original and one copy of these records in report form to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no Work is performed. As a minimum, prepare and submit one report for every 7 days of no Work and on the last day of a no work period. All calendar days need to be accounted for throughout the life of the Contract. The first report following a day of no work will be for that day only. Reports need to be signed and dated by the Contractor Quality Control Manager. Include copies of test reports and copies of reports prepared by all subordinate Quality Control personnel within the Quality Control Manager Report.

3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the Project Site, will be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly,

the Contracting Officer can issue an order stopping all or part of the Work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

SECTION 01 50 00

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS
11/21

PART 1 GENERAL

1.1 WORK COVERED

This section informs the Contractor which utilities, services, and temporary facilities will be made available by the Government during the performance of Work.

Provide and maintain temporary facilities during the Contract as required by BOCA, NEC, OSHA, and NFPA codes, the U.S. Coast Guard Base's regulations, and other health and safety codes. Obtain the approval of the Contracting Officer before installing or relocating temporary facilities. Install and/or relocate temporary facilities before starting Work unless otherwise approved by the Contracting Officer.

1.2 REFERENCES

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

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C511	(2017) Reduced-Pressure Principle Backflow Prevention Assembly

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.236-14	Availability and Use of Utility Services

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

FCCCHR List	(continuously updated) List of Approved Backflow Prevention Assemblies
FCCCHR Manual	(10th Edition) Manual of Cross-Connection Control

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code
NFPA 241	(2019) Standard for Safeguarding Construction, Alteration, and Demolition Operations

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)

FAA AC 70/7460-1	(2015; Rev L) Obstruction Marking and

Lighting

U.S. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

MUTCD	(2015) Manual on Uniform Traffic Control Devices

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

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926, Subpart K	Electrical

1.3 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Site Plan

Traffic Control Plan

SD-03 Product Data

Backflow Preventers

SD-06 Test Reports

Backflow Preventer Tests

SD-07 Certificates

Backflow Tester Certification

Backflow Preventers Certificate of Full Approval

1.4 CONSTRUCTION SITE PLAN

Prior to the start of Work, submit a Site Plan showing the locations and dimensions of temporary facilities (including layouts and details, interior space layout and HVAC provisions, Site Adaptation Drawings and details, and utilities capacity requirements and connection details,

equipment and material storage area (on-site and off-site), and access and haul routes, avenues of ingress/egress to the fenced area and details of the fence installation. Identify any areas which may have to be graveled to prevent the tracking of mud. Indicate if the use of a supplemental or other staging area is desired. Show locations of safety and construction fences, Site trailers, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas.

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 Tester Certification

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

1.5.2 Backflow Prevention Training Certificate

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.

PART 2 PRODUCTS

2.1 TEMPORARY SIGNAGE

2.1.1 Bulletin Board

Within one calendar day of mobilization on Site and prior to the commencement of Work activities, provide a clear weatherproof covered bulletin board not less than 36 by 48 inches in size for displaying the following:

a. Notice to all employees working on federal construction Contracts form WH 1321 (the Davis-Bacon Act General Wage Decision applicable to the Contract).

b. Minimum wage poster as required by the Fair Labor Standards Act.

c. A copy of the wage decision contained in the Contract

d. Notice of Employee Rights Poster required by Executive Order 13496.

e. Equal Opportunity is the Law poster as required by the EEOC.

f. Safety and Health Information as required by 29 CFR 1926 and other information as required by Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

Locate the bulletin board at the Project Site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer.

2.1.2 Warning Signs

Post temporary signs, tags, and labels to give workers and the public adequate warning and caution of construction hazards in accordance with 29 CFR 1926 and MUTCD.

2.2 TEMPORARY TRAFFIC CONTROL

2.2.1 Barricades

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

Erect and maintain temporary barricades with warning lights where construction Work intersects existing roads, walkways, at open excavations, and where pedestrian and driver safety may be endangered in the Area of Work. Provide barriers and warning signs to re-route pedestrians and drivers around potentially dangerous areas. Barriers shall be manufacturer's standard A-frame, barrel, or Jersey style with flashing amber lights and reflective orange/white striping on both sides of the barrier. Minimum barrier height shall be 42". Monitor barricades for wind/weather conditions, and restore promptly.

2.3 FENCING

Provide fencing along the Project Site and at all open excavations and tunnels to control access by unauthorized personnel. Safety fencing must be highly visible to be seen by pedestrians and vehicular traffic. All fencing shall be in compliance with 29 CFR 1926.

2.3.1 Polyethylene Mesh Safety Fencing

Temporary safety fencing must be a high visibility orange colored, high density polyethylene grid, a minimum of 48 inches high and maximum mesh size of 2 inches. Fencing must extend from the grade to a minimum of 48 inches above the grade and be tightly secured to T-posts spaced as necessary to maintain a rigid and taut fence. Fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection.

2.3.2 Chain Link Panel Fencing

Temporary panel fencing must be galvanized steel chain link panels 6 feet high. Multiple fencing panels may be linked together at the bases to form long spans as needed. Each panel base must be weighted down using sand bags or other suitable materials in order for the fencing to withstand anticipated winds while remaining upright. Fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection.

2.3.3 Post-Driven Chain Link Fencing

Temporary post-driven fencing must be galvanized chain link fencing 6 feet

high supported by an tightly secured to galvanized steel posts driven below grade. Fence posts must be located on minimum 10 foot centers. Posts may be set in various sufaces such as sand, soil, ashpalt or concrete as necessary. Chain link fencing must remain rigid and taut with a minimum of 200 pounds of force exerted on it from any direction with less than 4 inches of deflection. Fencing and posts must be completely removed at the completion of construction and any surfaces disturbed or damaged must be restored to its original condition. Underground utilities must be located and identified prior to setting fence posts. Fence must be equipped with a lockable gate. Gate must remain locked when construction personnel are not present.

2.3.4 Construction Item Hazard Fence

Provide a minimum 6'-0" high safety hazard fence around any construction operation that poses any type of hazard if area is left unattended (Note this is fencing in addition to your fully fenced Work Area). The fence must, at a minimum, be of a durable reflective UV resistant material. Remove the fence upon completion and acceptance of the Work.

2.4 RAMPS, STAIRS, LADDERS, STAGING and SIMILAR ACCESS ELEMENTS

Provide in accordance with Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS and as required to perform Work and facilitate inspections during installation. Comply with requests of Government authorities (such as OSHA inspectors) performing inspections. When permanent stairs or elevators are available for access during construction, cover and protect finished surfaces from damage and deterioration.

2.5 TEMPORARY WIRING

Provide temporary wiring in accordance with 29 CFR 1926 NFPA 241 and NFPA 70. Include monthly inspection and testing of all equipment and apparatus.

2.6 BACKFLOW PREVENTERS

Reduced pressure principle type conforming to the applicable requirements AWWA C511. Provide backflow preventers complete with 150 pound flanged , mounted gate valve and strainer, stainless steel or bronze, internal parts. The particular make, model/design, and size of backflow preventers to be installed must be included in the latest edition of the List of Approved Backflow Prevention Assemblies issued by the FCCCHR List and be accompanied by a Certificate of Full Approval from FCCCHR List. After installation conduct Backflow Preventer Tests and provide test reports verifying that the installation meets the FCCCHR Manual Standards. If the temporary water connection needs to be moved to another location during construction, the Contractor shall notify the Contracting Officer in writing a minimum of 5 working days prior to movement. The relocated backflow preventer shall be re-tested and re-certified.

PART 3 EXECUTION

3.1 CONTRACTOR PARKING

Construction Contract employees will park privately owned vehicles in an area designated by the Contracting Officer. Contractor parking must not interfere with existing and established parking requirements of the Government Installation.

3.2 MOORAGE AND ANCHORAGE

Use of moorage or anchorage space at U.S. Coast Guard facilities will not be made available to the Contractor for this Work.

3.3 LANDING STRIPS

Landing of private or charter aircraft at U.S. Coast Guard landing strips will not be made available to the Contractor for this Work.

3.4 CRANE SERVICES

The Contractor is responsible for obtaining any required crane or overhead lifting services for this Work.

3.5 AVAILABILITY AND USE OF UTILITY SERVICES

Utilities, services, temporary facilities may be available in accordance with FAR 52.236-14 and only to the extent specifically provided herein. Coordinate the establishment and use of utilities, services and temporary services with the Contracting Officer. Obtain the approval of the Contracting Officer before installing any hookups or connections.

The term utility service includes, but is not limited to meters, mains, service lines, high voltage feeders, transformers, force mains, lift stations, etc. The Contractor is responsible for coordinating the Work with the utility provider to insure the utility connection to the Site is completed and that there is no delay in the prosecution of the Work or completion of the Project.

The Contractor shall not operate nor disturb the setting of control devices in the Installation's utilities system, including water, sewer, electrical, telephone, data and steam services without prior approval from the Contracting Officer.

3.5.1 Outages, Down Time or Out of Service Time:

Interruption to water, sanitary sewer, storm sewer, telephone service, electric service, air conditioning, compressed air systems, heating, fire alarm, etc. shall be considered utility outages.

The Contractor shall provide and pay for all resources to safely coordinate, investigate and operate the temporary shutdown of utilities.

The Contractor shall be required to coordinate outages at the convenience of the Government. Outages will be approved by the Contracting Officer. The Contractor shall request the Contracting Officer's permission to schedule any necessary utility outage. The request shall be in writing, and shall identify the utility, reason for outage, location of outage, proposed time of outage, and the estimated duration of the proposed outage. In addition, the request shall identify all other utilities affected by the outage, and shall include any necessary sketches, and a description of the means to fulfill energy isolation requirements in accordance with applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, including but not limited to 29 CFR 1926, Subpart K. Where outages involve Government or Utility personnel, coordinate with the Government on all activities involving the control of hazardous energy in accordance with Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

Utility outages shall be requested at least 14 calendar days in advance, and shall never exceed 4 hours. Permission and duration for outages will be granted by the Contracting Officer based upon the need for the utility, and upon consideration of suitable bypasses, or alternate arrangements.

If downtime, including time for deactivation and reactivation, will be greater than 4 hours, Contractor shall provide temporary service of the same capacity as that which is out of service, unless otherwise authorized by the Contracting Officer. Outages on nights and weekends when facilities are not in use may be approved by the Contracting Officer.

3.5.2 Protection and Restoration

The Contractor shall safeguard and protect from damage all utilities encountered or uncovered. All Work to repair damage to commercial utilities shall be coordinated through the utility.

Contractor shall restore damaged piping, cable(s), and circuits to original condition and full operation if damage occurs through his failure or comply with instructions, or to obtain utility locations. Notification of damage shall be made immediately to the affected utility, to the U.S. Coast Guard representative as listed on the digging permit, and to the Contracting Officer; restoration efforts shall commence within 1 hour. Failure to commence restoration within the required time limit, or to make continuous progress toward restoration, or to complete acceptable restoration within a 4-hour time limit or an alternate time limit negotiated with and established by the Contracting Officer, shall result in suspension of all other Contract Work until acceptable restoration is completed and approved by the Contracting Officer.

In cases where a utility is damaged for reasons noted above, the Contractor shall, if lacking the qualified trades in his organization, employ as necessary such qualified trades or employ another Contractor having such trades to restore the utility to its original condition and full operation at no expense to the Government.

The Government reserves the right to protect damaged communications cables from further damage or deterioration and the right to restore priority circuits; these actions shall not relieve the Contractor of his full responsibility for restoration.

3.5.3 Temporary Utilities

Provide temporary utilities required for construction. Materials may be new or used, must be adequate for the required usage, not create unsafe conditions, and not violate applicable standards and local, state and federal codes governing the installation of the utility service being installed.

3.5.3.1 Payment for Utility Services

The following temporary services and equipment will be made available from existing outlets and supplies for use in performing this Contract, in accordance with FAR 52.236-14 and this Section

a. The Government will make all reasonably required utilities available from existing outlets and supplies, as specified in the Contract.

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

Electricity

Potable Water

c. Contractor shall pay all costs incurred in connecting, converting, and transferring the utilities to the Work. Make connections, including providing backflow-preventing devices on connections to domestic water lines; providing meters; and providing transformers; and make disconnections. Under no circumstances will taps to base fire hydrants be allowed for obtaining potable water.

The Contractor shall provide all other temporary services, utilities, and equipment required to complete the Work of this Contract which are not provided by the U.S. Coast Guard. These include but are not limited to the following:

a. Barricades, railings and other safety gear

b. Fire protection

c. Clean up and disposal of trash

d. Portable or temporary toilet facilities

e. Communications

Make all arrangements with the local utility providers and pay all fees, charges, and costs of any nature associated with establishing and installing temporary services which are not available via U.S. Coast Guard systems.

3.5.3.2 Temporary Connections

Obtain the approval of the Contracting Officer at least 3 working days in advance of installing any hookups or connections. Notify the Contracting Officer, in writing, 5 working days before final electrical connection is desired so that a utilities Contract can be established. The Contractor shall coordinate any temporary connections and usages with the Public Works Officer, via the Contracting Officer.

Provide and maintain necessary temporary connections, distribution lines, etc. required to measure the amount of each utility used for the purpose of determining charges.

Install temporary electrical power in accordance with National Electrical Code (NEC). Submit copies of executed permits.

3.5.4 Electricity

Provide connections, sized to provide service required for power and lighting. Locate feeder and branch wiring with area distribution boxes so that power is available throughout the Project Site by use of power cords. Electricity used will be furnished by the Government.

Install and maintain the temporary connection, convert and transfer power to the Work, and disconnect it upon completion of Work. Usage is limited

to the amount required to construct this Project and manage the temporary facilities supporting this Project. Make connection arrangements with the Contracting Officer.

3.5.5 Water

Make connections to existing facilities to provide water for construction purposes. Water used will be furnished by the Government.

Usage is limited to the amount required to construct this Project and manage the temporary facilities supporting this Project. Connections to potable water shall have an isolation valve and reduced pressure principal backflow preventer. Fire hydrants shall not be used as a source for potable water. Make connection arrangements with the Contracting Officer.

3.5.6 Sanitation

There are no existing toilet facilities for Contractor use and the Government will not provide temporary toilet facilities. The Contractor shall provide temporary services/facilities for their use. Provide chemical toilets or equally effective units for employees and require their use. Periodically empty and dispose of waste. Keep facilities clean and free of nuisance such as pests, odor, and vermin. Place facilities where directed by the Contracting Officer. Upon completion of the Work remove the sanitary facilities and leave the area clean and free of nuisance.

3.5.7 Trash Collection and Disposal

Trash Collection and Disposal shall be in accordance with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

The Contractor shall be responsible for collection and disposal of debris and rubbish generated as part of this Work, including obtaining receptacles and vehicles. Use of existing Government trash receptacles or dumpsters is not permitted.

The Contractor shall provide all other temporary services, utilities, and equipment required, which are not provided by the U.S. Coast Guard. These include, but are not limited to: Clean up and disposal of trash. Maintaining Project Site and Area of Work in a sanitary condition at all times. Establish the facilities in manner to minimize public viewing. Contracting Officer will approve location and installation.

3.5.8 Telephone

Telephones normally available to the public and local to the Project Site may be used by the Contractor, otherwise dedicated telephone lines for use by the Contractor will not be provided.

Coordinate with the local telephone company for point of connection (POC) location for temporary telephone service, if required. Contractor shall pay all installation fees and telephone usage charges directly to the telephone company to provide the services desired.

3.5.9 Fire Protection

It is the inherent responsibility of the Contractor to practice good fire prevention measures while working on U.S. Coast Guard property. Perform

all Work in a fire-safe manner and in accordance with Section 01 35 26 GOVERNEMENTAL SAFETY REQUIREMENTS. Provide and maintain adequate firefighting equipment during the entire construction period.

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

Comply with local fire protection regulations and, where the regulations do not apply, comply with the standards of the National Fire Protection Association.

Flammable paints, oil, varnishes, etc., stored inside structures must be in a metal storage cabinet. When stored outside, flammables must be in a controlled area. Flammables being used outside of these areas are limited to a one day supply.

On-site burning for disposal is not allowed.

3.5.10 Heating, Cooling, Ventilation and Enclosure of Work

Provide heating, cooling, ventilation and enclosure of Work as required to accommodate construction; maintain environmental conditions specified in other sections; protect materials and finishes from damage due to temperature, humidity, or weather; cure materials and disperse humidity; and to prevent accumulations of dust, fumes, vapors, and gases.

3.5.11 Cable and Internet

Coordinate and pay all associated costs directly with the local service provider for temporary cable and internet service to the Contractor and Government trailers. Pay all fees and usage charges directly to the service provider.

3.5.12 Obstruction Lighting of Cranes

Provide a minimum of 2 aviation red or high intensity white obstruction lights on temporary structures (including cranes) over 100 feet above ground level. Light construction and installation must comply with FAA AC 70/7460-1. Lights must be operational during periods of reduced visibility, darkness, and as directed by the Contracting Officer.

3.6 TRAFFIC PROVISIONS

The Contractor shall make his own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the Work Site.

If during the performance of Work it becomes necessary to modify vehicular traffic patterns, notify the Contracting Officer at least 10 days prior to the proposed interruption date. The plan shall be approved prior to the start of activities affecting traffic.

3.6.1 Maintenance of Traffic

a. Submit a Traffic Control Plan to the Contracting Officer for approval. The plan shall show, but not be limited to, traffic flow pattern, location of warning signs, flaggers, barricades, etc. The

Contractor shall evaluate, as part of the road closure plan, area-wide traffic flow as it is affected by construction activities. The Contractor shall sequence their Work to maintain access and continuity of Base operations. The plan must be in accordance with State and local regulations and the MUTCD, Part VI. . Contractor may move oversized and slow-moving vehicles to the Project Site provided requirements of the highway authority have been met.

b. For road closures, or traffic modifications; submit an "outage request" to the Contracting Officer in accordance with Section 01 14 00 WORK RESTRICTIONS.

c. Conduct operations in a manner that will not close any thoroughfare or interfere in any way with traffic on railways or highways except with written permission of the Contracting Officer.

d. Conduct Work so as to minimize obstruction of traffic, and maintain traffic on at least half of the roadway width at all times. Obtain approval from the Contracting Officer prior to starting any activity that will obstruct traffic.

e. Sign roads in the Area of Work to indicate road closures and alternative routes. Post signs to indicate pending road closures 3 days prior to the actual closure. Install signs upstream of closure to warn traffic in advance of closed section. Coordinate all signage requirements with the Contracting Officer.

f. Provide, erect, and maintain, at Contractors expense, lights, barriers, signals, passageways, detours, and other items, as required by the Contracting Officer, authority having jurisdiction, and including but not limited to the following:

(1) Life Safety Signage

(2) Overhead Protection

(3) The Contractor shall erect a temporary barrier(s) to demark their Work Area(s). Where necessary, the barriers should be supplemented with traffic control and informational signs.

(4) Temporary barriers shall be erected to delineate a corridor through which tenant vehicles and equipment can pass, and temporary fencing shall be installed to control normal pedestrian pathways.

(5) Provide barricades around all trenches and holes.

g. For intermittent closures, any one-way temporary traffic, or construction activities which affect an open road, provide flagmen to direct traffic around obstructions or equipment.

h. Make all notifications and obtain any permits required for modification to traffic movements outside U.S. Coast Guard's jurisdiction.

3.6.1.1 Closure Restrictions

Single lane traffic through the Main Front Gate may be allowed on base during regular working hours, except during the morning and afternoon rush

hour periods (0630 to 0830 & 1500 to 1700), with 72 hour advance notification to and approval by the Contracting Officer and the Base Security Officer.

A minimum of 1 lane traffic shall be provided to all buildings, residences, piers, parking lots and training facilities at all times.

The loop road system around the base shall be completely open on one side at all times with the following additional requirements:

a. The Contractor shall provide signs and barricades/drums with blinking lights to close roads, detour traffic, and reroute traffic.

b. Construction activities that require the closure of a two way street to a single lane traffic flow shall provide all necessary traffic flow devices (including all necessary flagmen) for maintaining traffic flow in both directions at the Contracting Officer's approved rates of movement (e.g., no unreasonably traffic flow delays).

3.6.2 Protection of Traffic

Protect the traveling public from damage to person and property. Minimize the interference with public traffic on roads selected for hauling material to and from the Site. Investigate the adequacy of existing roads and their allowable load limit. Contractor is responsible for the repair of any damage to roads caused by construction operations.

Maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment the Work, and the erection and maintenance of adequate warning, danger, and direction signs, will be as required by the State and local authorities having jurisdiction. Traffic Control devices shall be constructed and installed in accordance with the Alaska Traffic Manual.

Provide temporary barriers with warning lights where construction Work intersects existing roads, walkways, at open excavations, and where pedestrian and driver safety may be endangered in the Area of Work. Provide barriers and warning signs to re-route pedestrians and drivers around potentially dangerous areas. Barriers shall be manufacturer's standard A-frame, barrel, or Jersey style with flashing amber lights and reflective orange/white striping on both sides of the barrier. Minimum barrier height shall be 42". Monitor barricades for wind/weather conditions, and restore promptly.

Provide and maintain warning lights and signs as necessary to prevent damage or injury. Keep warning lights burning from dusk to dawn.

Unless required to be filled with soil by other sections of these Specifications, provide trench plates for excavations in roads left open overnight on U.S. Coast Guard property. Comply with local city, state requirements off U.S. Coast Guard property.

3.6.3 Rush Hour Restrictions

Do not interfere with the peak traffic flows preceding and during normal operations without notification to and approval by the Contracting Officer.

3.6.4 Dust Control

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

3.7 CONTRACTOR'S TEMPORARY FACILITIES

Maintain a tidy Work Site. Proximity of the Work to the Air Station and operating airfields makes this particularly important.

3.7.1 Field Offices

Provide and maintain administrative construction field office facilities at the Project Site. Locate field office facilities at the existing Contractor trailer compound on Base Kodiak. Government office and warehouse facilities will not be available to the Contractor's personnel.

3.7.2 Storage Areas

No On-Base covered storage facilities are available to the Contractor. Contractor shall be responsible for providing covered storage as needed. Space may be limited and the Contractor shall be responsible for obtaining off-site storage as needed.

A Contractor's laydown area will be provided in the general vicinity of the Work Site. Coordinate location/use with the Contracting Officer..

The Contractor shall erect temporary barriers to demark their Work/storage Areas. There should be no expectation of Government provided security for the Contractor's materials. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Do not place or store trailers, materials, or equipment outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Contracting Officer away from the vicinity of the Work Site but within the installation boundaries. Trailers, equipment, or materials must not be open to public view with the exception of those items which are in support of ongoing Work on any given day. Do not stockpile materials outside the fence in preparation for the next day's Work. Park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment within the fenced area at the end of each work day.

The Contractor shall install security fencing around all Work and laydown areas. Fencing shall be substantial, to prevent pedestrian and vehicle access, to prevent windblown debris, and to denote areas of construction. Temporary barriers shall be erected to delineate a corridor around the Area of Work, for temporary pedestrian passage, and temporary fencing shall be installed to control/divert normal pedestrian pathways. Where necessary, the barriers should be supplemented with traffic control and informational signs. Fencing placed in existing paved areas (which are not replaced with the Work) shall be surface mounted.

3.7.2.1 Supplemental Storage Area

Upon request, and pending availability, the Contracting Officer will designate another or supplemental area for the use and storage of trailers, equipment, and materials. This area may not be in close

proximity of the Work Site but will be within the installation boundaries. The area will be maintained in an clean and orderly fashion and secured if needed to protect supplies and equipment. Utilities will not be provided to this area by the Government.

3.7.2.2 Maintenance of Storage and Laydown Areas

a. Maintain tidy laydown and storage areas. The adjacent areas are working areas. Equipment/people move past the Work area. Access to, and functions of the adjacent Site shall remain operational during construction.

b. Provide foreign object debris (FOD) countermeasures to secure materials at all Worksites. Anchor fencing as required to prevent damage from weather or Station operations. Provide a means to secure materials at the end of the work day.

c. All existing materials which are to be removed, and are not indicated or specified for reuse in the new Work, shall, unless otherwise specified, be removed from Government property at the Contractor's expense, and disposed of in accordance with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS and all Federal, State, and local regulations. Remove all salvage from Government property.

d. Keep fencing in a state of good repair and proper alignment. Grassed or unpaved areas, which are not established roadways, and will be traversed with construction equipment or other vehicles, will be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways, should the Contractor elect to traverse them with construction equipment or other vehicles. Mow and maintain grass located within the boundaries of the cProject Site for the duration of the Project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers will be edged or trimmed neatly.

e. Cut grass (or annual weeds) within the construction and storage sites to a maximum 4 inch height at least once a week during the growing season, whether or not area is visible to the public to assist in rodent control. Trim the grass around fences at time of grass cutting. Maintain grass or weeds on stockpiled earth as described above.

3.7.2.3 Storage In Existing Buildings

The adjacent areas are Working Areas. Equipment/people move past the Work Area. Access to, and functions of the adjacent Site shall remain operational during construction.

The storage of material will not be allowed in the buildings. The Contractor shall erect temporary barriers to demark their Work/storage Areas. There should be no expectation of Government provided security for the Contractor's materials. Remove at the completion of Work.

3.7.3 Safety Systems

Protect the integrity of any installed safety systems or personnel safety devices. Obtain prior approval from the Contracting Officer if entrance into systems serving safety devices is required. If it is temporarily necessary to remove or disable personnel safety devices in order to

accomplish Contract requirements, provide alternative means of protection prior to removing or disabling any permanently installed safety devices or equipment and obtain approval from the Contracting Officer.

Provide fence barriers to prevent unauthorized entry in Work Areas, where heavy equipment operates or is parked, demolition areas, and to protect existing facilities and adjacent properties from damage from construction operations. Construct and maintain barricades as required by OSHA sufficient to prevent injury to persons and damage to property.

Provide barricades around trenches and holes to prevent access.

3.7.4 Security Provisions

Provide adequate outside security lighting at the temporary facilities. The Contractor will be responsible for the security of its own equipment.

3.7.5 Weather Protection of Temporary Facilities and Stored Materials

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. Ensure that the openings are completely sealed off to protect materials and equipment in the building from damage.

3.7.5.1 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 must 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.

3.8 TEMPORARY PROJECT SAFETY FENCING

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

3.9 DUMPSTERS

Equip dumpsters with a secure and/or lockable cover. Keep dumpster closed, 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 55 gallon trash containers to collect debris in the Work Area.

3.10 CLEANUP

The Contractor shall provide cleaning services after final inspection, immediately prior to Government acceptance including:

a. Cleaning of all windows (inside and outside), window screens, and all

interior spaces. Remove packing labels, paint overspray, and other remnants of construction.

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

Upon completion of the Project remove the bulletin board, signs, barricades, haul roads, etc. from the Project Site.

Unless specifically noted or directed otherwise by the Contracting Officer, all Contractor-furnished temporary facilities shall become property of the Contractor.

U.S. Coast Guard and Facility Partners shall have first right of refusal for all Government-furnished temporary facilities. Contracting Officer will advise Contractor as to which Government-furnished temporary facilities are to become the property of the Contractor.

Unless otherwise directed by the Contracting Officer, all Contractor property shall be removed from the Site by the Contractor upon completion of the Project.

3.11 RESTORATION OF STORAGE AREAS

After removal of trailers, materials, equipment, etc. from within fenced areas, remove the fence. Restore areas used during the performance of the Contract to the original or better condition. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil and seeding as necessary.

-- End of Section --

SECTION 01 57 19

TEMPORARY ENVIRONMENTAL CONTROLS
03/22

PART 1 GENERAL

1.1 Summary

This Specification Section covers the requirements for environmental protection, including protection of natural, historic, and archaeological resources as well as protected species and other temporary environmental controls. During all phases of this Project, the Contractor shall comply with all applicable federal, state, and local environmental requirements, including but not limited to applicable requirements of 18 AAC 70 Water Quality Standards, 40 CFR Protection of Environment, 29 CFR 1910 Occupational Safety and Health Standards, and 49 CFR 100-199 Hazardous Materials Transportation, Handling, and Storage Regulations. Contractor shall incorporate environmental requirements early, and ensure environmental compliance throughout all Project phases. Any fines, delays or other losses due to non-compliance shall be at the cost of the Contractor.

1.2 REFERENCES

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

ALASKA ADMINISTRATIVE CODE (AAC)

18 AAC 70	(2020) Water Quality Standards
18 AAC 75	(2020) Oil and Other Hazardous Substances Pollution Control
18 AAC 83	Alaska Pollutant Discharge Elimination System Program

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.236-7	Permits and Responsibilities
FAR 52.236-12	Cleaning Up
FAR 52.242-14	Suspension of Work

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA SW-846	(Third Edition; Update IV) Test Methods for Evluating Solid Waste: Physical/Chemical Methods

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

16 CFR 1302	Ban Of Extremely Flammable Contact Adhesives

16 CFR 1303	Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint
16 CFR 1304	Ban of Consumer Patching Compounds Containing Respirable Free-Form Asbestos
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
29 CFR 1910.1053	Respirable Crystalline Silica
29 CFR 1926.1153	Respirable Crystalline Silica
40 CFR	Protection of Environment
40 CFR 50	National Primary and Secondary Ambient Air Quality Standards
40 CFR 60	Standards of Performance for New Stationary Sources
40 CFR 61	National Emission Standards for Hazardous Air Pollutants
40 CFR 61-SUBPART M	National Emission Standard for Asbestos
40 CFR 61.148	Standard for Insulating Materials
40 CFR 63	National Emission Standards for Hazardous Air Pollutants for Source Categories
40 CFR 64	Compliance Assurance Monitoring
40 CFR 82	Protection of Stratospheric Ozone
40 CFR 112	Oil Pollution Prevention
40 CFR 152 - 186	Pesticide Programs
40 CFR 204	Noise Emission Standards for Construction Equipment
40 CFR 205	Transportation Equipment Noise Emission Controls
40 CFR 241	Guidelines for Disposal of Solid Waste
40 CFR 243	Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste
40 CFR 258	Subtitle D Landfill Requirements
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous

	Waste
40 CFR 261.7	Residues of Hazardous Waste in Empty Containers
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 262.31	Standards Applicable to Generators of Hazardous Waste-Labeling
40 CFR 262.34	Standards Applicable to Generators of Hazardous Waste-Accumulation Time
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 266	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 273	Standards For Universal Waste Management
40 CFR 273.2	Standards for Universal Waste Management - Batteries
40 CFR 273.4	Standards for Universal Waste Management - Mercury Containing Equipment
40 CFR 273.5	Standards for Universal Waste Management - Lamps
40 CFR 279	Standards for the Management of Used Oil
40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
40 CFR 300.125	National Oil and Hazardous Substances Pollution Contingency Plan - Notification and Communications
40 CFR 355	Emergency Planning and Notification
40 CFR 372	Toxic Chemical Release Reporting: Community Right-To-Know
40 CFR 403	General Pretreatment Regulations for Existing and New Sources of Pollution

40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
48 CFR 52.223-3	Hazardous Material Identification and Material Safety Data
49 CFR 100-199	Hazardous Materials Transportation, Handling, and Storage Regulations
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 172.101	Hazardous Material Regulation-Purpose and Use of Hazardous Material Table
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 178	Specifications for Packagings

1.3 DEFINITIONS

1.3.1 Alaska Pollutant Discharge Elimination System (APDES)

The APDES Permit Program controls water pollution by regulating point sources located in the state of Alaska that discharge pollutants into Waters of the United States. See 18 AAC 83.

1.3.2 Biological Assessment

The term "Biological Assessment" as used in this Specification Section refers to a report identifying natural and biological resources that may be impacted by the Project Work. These resources include but are not limited to migratory birds and their habitats, fish habitats, marine mammals, and all threatened, protected, and endangered species.

1.3.3 Class I and II Ozone Depleting Substance (ODS)

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

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

Most aerosols contain ODS. Use of any aerosols must be avoided unless adequate documentation is provided demonstrating that the product does not contain ODS and is approved by the Contracting Officer .

1.3.4 Contractor Generated Hazardous Waste

Contractor generated hazardous waste is materials that, if abandoned or

disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on-site by the Contractor to execute Work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (e.g., methyl ethyl ketone, toluene), waste thinners, excess paints, excess solvents, waste solvents, excess pesticides, and contaminated equipment rinse water. Contractor Generated Hazardous Waste also includes Investigation-Derived Waste (IDW).

1.3.5 Determination of Effect

The term "Determination of Effect" as used in this Specification Section refers to a report identifying historical, archaeological, and/or culturally significant resources that may be impacted by the Project Work.

1.3.6 Electronics Waste

Electronics waste is discarded electronic devices intended for salvage, recycling, or disposal.

1.3.7 Environmental Management Plan (EMP)

The EMP is a Project specific Plan which identifies the minimum regulatory compliance requirements for mitigation and handling of contaminated Environmental Media. The EMP is separate from the Environmental Protection Plan (EPP).

1.3.8 Environmental Media

Any organic material that may be contaminated prior to, or may become contaminated during the course of Work. Environmental media includes but is not limited to:

a. Groundwater
b. Soil
c. Sediment
d. Surface Water
e. Indoor Air
f. Vegetation and Ground Cover

1.3.9 Environmental Pollution and Damage

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

1.3.10 Environmental Protection

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

1.3.11 Environmental Protection Plan (EPP)

The Environmental Protection Plan (EPP) is prepared and submitted by the Contractor to the Government in order to demonstrate compliance with all Project Environmental Management and Protection requirements.

1.3.12 Hazardous Debris

Debris that contain listed hazardous waste (either on the debris surface, or in its interstices, such as pore structure) in accordance with 40 CFR 261. Hazardous debris also includes debris that exhibits a characteristic of hazardous waste in accordance with 40 CFR 261. Also see Solid Waste definition.

1.3.13 Hazardous Materials

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

Hazardous material is any material that: Is regulated as a hazardous material in accordance with 49 CFR 173; or requires a Safety Data Sheet (SDS) in accordance with 29 CFR 1910.120; or during end use, treatment, handling, packaging, storage, transportation, or disposal meets or has components that meet or have potential to meet the definition of a hazardous waste as defined by 40 CFR 261 Subparts A, B, C, or D. Designation of a material by this definition, when separately regulated or controlled by other Sections or directives, does not eliminate the need for adherence to that hazard-specific guidance which takes precedence over this Section for "control" purposes. Such material includes, but is not limited to, ammunition, weapons, explosive actuated devices, propellants, pyrotechnics, chemical and biological warfare materials, medical and pharmaceutical supplies, medical waste and infectious materials, bulk fuels, radioactive materials, and other materials such as asbestos, mercury, and polychlorinated biphenyls (PCBs).

1.3.14 Hazardous Waste

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

1.3.15 Investigation-Derived Wastes (IDW)

IDW is any waste created from drilling, boring, or other site investigation activities required to identify and determine contamination at a Project Site, whether or not contamination is known to exist. IDW may include drill cuttings and mud, purge water, sampling media, PPE, etc.

1.3.16 Installation

As used in this Specification Section, "Installation" is defined as the U.S. Coast Guard property location where the Project will occur.

1.3.17 Land Application

Land Application means spreading or spraying discharge water at a rate that allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "Waters of the United States" must occur.

Comply with federal, state, and local laws and regulations.

1.3.18 National Pollutant Discharge Elimination System (NPDES)

The NPDES Permit Program controls water pollution by regulating point sources that discharge pollutants into Waters of the United States. In the state of Alaska, the state NPDES Permit Program is the Alaska Pollutant Discharge Elimination System (APDES). Where required, the APDES Permit Program is applicable to most U.S. Coast Guard District 17 Projects. The national NPDES Permit Program is generally only applicable to Projects located in Denali National Park and Metlakatla.

1.3.19 NESHAP

National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61-SUBPART M.

1.3.20 Oily Waste

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

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

1.3.21 Regulated Waste

Regulated waste are solid wastes that are regulated under RCRA, TSCA, NESHAP or other State, Tribal, or local governement regulations and have specific additional federal, state, or local controls for handling, storage, and/or disposal.

1.3.22 Sediment

Sediment is soil and other debris that have eroded and have been transported by runoff water or wind.

1.3.23 Solid Waste

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

1.3.23.1 Debris

Debris is non-hazardous solid material generated during the construction, demolition, or renovation of a structure that exceeds 2.5-inch particle size that is: a manufactured object; plant or animal matter; or natural geologic material (for example, cobbles and boulders), broken or removed concrete, masonry, and rock asphalt paving; ceramics; roofing paper and shingles. Inert materials may be reinforced with or contain ferrous wire, rods, accessories and weldments. A mixture of debris and other material such as soil or sludge is also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

1.3.23.2 Green Waste

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

1.3.23.3 Material not regulated as solid waste

Material not regulated as solid waste is 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.

1.3.23.4 Non-Hazardous Waste

Non-hazardous waste is waste that is excluded from, or does not meet, hazardous waste criteria in accordance with 40 CFR 263.

1.3.23.5 Recyclables

Recyclables are materials, equipment and assemblies such as doors, windows, door and window frames, plumbing fixtures, glazing and mirrors that are recovered and sold as recyclable, and structural components. It also includes commercial-grade refrigeration equipment with Freon removed, household appliances where the basic material content is metal, clean polyethylene terephthalate bottles, cooking oil, used fuel oil, textiles, high-grade paper products and corrugated cardboard, stackable pallets in good condition, clean crating material, and clean rubber/vehicle tires. Metal meeting the definition of lead contaminated or lead based paint contaminated may be included as recyclable if sold to a scrap metal company. Paint cans that meet the definition of empty containers in accordance with 40 CFR 261.7 may be included as recyclable if sold to a scrap metal company.

1.3.23.6 Surplus Soil

Surplus soil is existing soil that is in excess of what is required for this Work, including aggregates intended, but not used, for on-site mixing of concrete, mortars, and paving. Contaminated soil meeting the definition of hazardous material or hazardous waste is not included and must be managed in accordance with paragraph HAZARDOUS MATERIAL MANAGEMENT.

1.3.23.7 Scrap Metal

This includes scrap and excess ferrous and non-ferrous metals such as reinforcing steel, structural shapes, pipe, and wire that are recovered or collected and disposed of as scrap. Scrap metal meeting the definition of hazardous material or hazardous waste is not included.

1.3.23.8 Wood

Wood is dimension and non-dimension lumber, plywood, chipboard, hardboard. Treated or painted wood that meets the definition of lead contaminated or lead based contaminated paint is not included. Treated wood includes, but is not limited to, lumber, utility poles, crossties, and other wood products with chemical treatment.

1.3.24 Spill Prevention, Control, and Countermeasure (SPCC) Plan

The SPCC Plan is an EPA mandated plan developed by the U.S. Coast Guard for the Installation where the Project will occur to prevent discharge of oil into the Waters of the United States.

1.3.25 Surface Discharge

Surface discharge means discharge of water into drainage ditches, storm sewers, creeks or "Waters of the United States". Surface discharges are discrete, identifiable sources and require a Permit from the governing agency. Comply with federal, state, and local laws and regulations.

1.3.26 Stormwater Pollution Prevention Plan (SWPPP)

Stormwater Pollution Prevention Plans (SWPPP) are a requirement of the Clean Water Act and address a facility or construction project's pollutants and identify the Best Management Practices (BMPs) the facility or construction project will implement to reduce discharge of pollutants and contaminated environmental media into stormwater.

1.3.27 Wastewater

Wastewater is the used water and solids from a community that flow to a treatment plant.

1.3.27.1 Stormwater

Stormwater is any precipitation in an urban or suburban area that does not evaporate or soak into the ground, but instead collects and flows into storm drains, rivers, and streams.

1.3.28 Waters of the United States

Waters of the United States means Federally jurisdictional waters, including wetlands, that are subject to regulation under Section 404 of the Clean Water Act or navigable waters, as defined under the Rivers and Harbors Act.

1.3.29 Wetlands

Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation

typically adapted for life in saturated soil conditions.

1.3.30 Universal Waste

The universal waste regulations streamline collection requirements for certain hazardous wastes in the following categories: batteries, pesticides, aerosol cans, mercury-containing equipment (for example, thermostats), and lamps (for example, fluorescent bulbs). The rule is designed to reduce hazardous waste in the municipal solid waste (MSW) stream by making it easier for universal waste handlers to collect these items and send them for recycling or proper disposal. These regulations can be found at 40 CFR 273.

1.4 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Waste Management Plan

Environmental Protection Plan

Erosion And Sediment Control Plan (ESCP)

SD-07 Certificates

ADEC Contaminated Sites Program Transport, Treatment, And Disposal Approval Form For Contaminated Media

SD-11 Closeout Submittals

Waste Determination Documentation

Disposal Documentation for Hazardous and Regulated Waste

Project Solid Waste Disposal Documentation Report

Integrated Cultural Resource Management Plan Closeout Report

Environmental Records Binder

1.4.1 Submittal Transmittals

In accordance with Section 01 33 00 SUBMITTAL PROCEDURES, all submittals require a submittal transmittal form and all submittal transmittal forms must be signed by an authorized official of the Contractor, indicating that the Contractor has reviewed the submittal for conformance with all requirements of the Contract documents, in order to be accepted.

1.5 ENVIRONMENTAL PROTECTION REQUIREMENTS

1.5.1 General

Provide and maintain, during the life of the Contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during construction practice. Plan for and provide environmental protective measures required to correct

conditions that develop during the construction of permanent or temporary environmental features associated with the Project. Protect the environmental resources within the Project boundaries and those affected outside the limits of permanent Work during the entire duration of this Contract. Comply with federal, state, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

Tests and procedures assessing whether construction operations comply with Applicable Environmental Laws may be required. Analytical work must be performed by qualified laboratories; and where required by Contract Documents, law, or U.S. Coast Guard Civil Engineering Unit Juneau the laboratories must be certified.

1.6 SPECIAL ENVIRONMENTAL REQUIREMENTS

Comply with the special environmental requirements listed here:

Any potential disturbances outside of the Area of Work or Project Site must be approved by the Contracting Officer prior to commencing any Work.

1.7 ENVIRONMENTAL LICENSES, PERMITTING, AND APPROVAL REQUIREMENTS

1.7.1 General

The Contractor shall be responsible for identifying and obtaining all required Permits, approvals, notifications, concurrences, consultations, and certifications from federal, state, and local regulatory agencies for the construction of the Project and in accordance with FAR 52.236-7 Permits and Responsibilities. Timely acquisitions of all necessary related Permits that are not included in the Contract Documents shall be the responsibility of the Contractor. This Specification supplements the Contractor's responsibility under FAR 52.236-7 Permits and Responsibilities.

Except for those included in the Contract Documents, the Contractor is responsible to prepare all Permit applications, notices of intent, notices of termination, etc. and to pay all associated costs and fees as part of this Contract. The Contractor shall be responsible for incorporating all Permit conditions and constraints and ensuring compliance with Permits is maintained throughout the Project.

Permit application, notice of intent, and notice of termination packages shall be submitted to regulators in hard copy or electronic format, as required by the regulators. On-line applications and submittals shall be accomplished by Contractor.

The Contractor shall be responsible for all associated Permit and application fees as well as penalties issued due to violations of Permit conditions.

1.7.2 Regulatory Notifications

Provide regulatory notifications in accordance with federal, state, and local regulations. Submit copies of regulatory notifications to the Contracting Officer for review and approval prior to submittal to the appropriate Regulatory Agency. Allow 30 calendar days for each Contracting Officer review cycle. Notifications must be approved by the Contracting Officer prior to submission to Regulatory Agency. In cases where the

Government will also provide public notification (e.g., stormwater permitting), coordinate with the Contracting Officer. Regulatory agency review periods vary, Contractor shall account for Regulatory Agency review periods in their schedule.

1.7.3 Digging Permit

No ground disturbing activity shall commence without a Digging Permit issued by U.S. Coast Guard Base Kodiak Facilities Engineering Environmental Division17. Note that, in addition to requirements specified elsewhere, including but not limited utility locates and surveys as required by Section 01 50 00 TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS, the Contractor may be required to submit regulator approved workplans in order to obtain the Digging Permit.

1.7.4 ADEC Contaminated Sites Program Transport, Treatment, and Disposal Approval Form for Contaminated Media

Submit the ADEC Contaminated Sites Program Transport, Treatment, and Disposal Approval Form for Contaminated Media to Contracting Officer no later than 90 days after generation of ANY contaminated environmental media.

1.7.5 Waste Management Plan

The Waste Management Plan (WMP) shall identify the management procedures for all Solid Wastes including hazardous waste and waste water, as defined in this section. WMP must comply with 40 CFR 260-268; 279 RCRA provisions surrounding waste management, disposal, handling, packaging, recordkeeping, and transportation of project waste. Close coordination is needed with Base Kodiak Environmental for on-site waste management activities. As a minimum, include the following:

a. List of the types of hazardous wastes expected to be generated.
b. Written procedures for making waste determinations for wastes that are generated.
c. Sampling/analysis plan, including laboratory method(s) that will be used for waste determinations and copies of relevant laboratory certifications.
d. Methods and proposed locations for solid and hazardous waste accumulation/storage. Hazardous waste shall be managed in tanks or containers subject to the requirements in 40 CFR sections 262.16(b)(2) and (3).
e. Management procedures for storage, labeling, transportation, and disposal of waste (treatment of waste is not allowed unless specifically noted).
f. Management procedures and regulatory documentation ensuring disposal of hazardous waste complies with Land Disposal Restrictions (40 CFR 268).
g. Management procedures for universal wastes and recyclable hazardous materials such as lead-acid batteries, used oil, and similar.
h. Plans for the disposal of hazardous waste by permitted facilities; and procedures to comply with the hazardous waste manifest requirements at 40 CFR part 262, subpart B and the pre-transport requirements at 40 CFR sections 262.30 through 262.33

1.7.6 Facility Hazardous Waste Generator Status

Base Kodiak has a designated RCRA part B Permit as a Treatment, Storage,

and Disposal Facility (TSDF). Meet the regulatory requirements of this generator designation for any Work conducted within the boundaries of this Installation. Comply with provisions of federal, state, and local regulatory requirements applicable to this generator status regarding training and storage, handling, the pre-transport, preparedness & prevention, episodic event requirements, and disposal of construction derived wastes.

1.7.7 Integrated Cultural Resource Management Plan Closeout Report

The ICRMP is a three part document that includes a Programmatic Agreement (PA), a Management Plan, and Design and Maintenance Guidelines for historic properties at Base Kodiak. This is a guidance document for assessing effect to historic properties on Base Kodiak in compliance with Section 106 of the NHPA.

To comply with the ICRMP, the contractor shall provide a Closeout Report detailing what PA element was effected, how many, the type of material and what it was replaced with, how many were replaced, and the product type that was installed. Also include photographs of all exterior elevations before and after the completed Work. These photographs should be labeled to include; Structure name, date photograph taken, and façade direction.

1.8 QUALITY CONTROL

1.8.1 Preconstruction Survey and Protection of Features

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any on-site construction activities, perform a Preconstruction Survey of the Project Site including any and all monitoring wells in the general vicinity 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. Include in the report a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the Drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the Site of Work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. The Contractor and the Contracting Officer will sign this survey report upon mutual agreement regarding its accuracy and completeness. Protect those environmental features included in the survey report and any indicated on the Drawings, regardless of interference that their preservation may cause to the Work under the Contract.

1.8.2 Employee Training Records

a. Prepare and maintain Employee Training Records throughout the term of the Contract meeting applicable 40 CFR requirements. Provide Employee Training Records in the Environmental Records Binder. Submit these Assembled Employee Training Records to the Contracting Officer at the conclusion of the Project, unless otherwise directed.

b. Train personnel to meet applicable environmental requirements. Conduct environmental protection/pollution control meetings for personnel prior to commencing construction activities. Conduct additional meetings for new personnel and when Site conditions

change. Include in the training and meeting agenda: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, Waters of the United States, and endangered species and their habitat that are known to be in the area.

c. Contracting Officer's approval is required for any changes to the Environmental Manager, and/or Contractor's Environmental Protection personnel.

1.8.3 Non-Compliance Notifications

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with federal, state or local environmental laws or regulations, Permits, and other elements of the Contractor's EPP. After receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the Work until satisfactory corrective action has been taken.

Any non-compliance identified by a federal, state, or local environmental enforcement regulator shall be immediately reported to the Contracting Officer.

FAR 52.242-14 Suspension of Work provides that a suspension, delay, or interruption of Work due to the fault or negligence of the Contractor allows for no adjustments to the Contract for time extensions or equitable adjustments. This is in addition to any other actions the Contracting Officer may take under the Contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

1.9 ENVIRONMENTAL PROTECTION PLAN (EPP)

Meet with the Contracting Officer to discuss the information required to be provided in and addressed by the EPP in more detail. Develop a mutual understanding with the U.S. Coast Guard relative to the details for environmental protection including measures for protecting natural resources, required reports, and other measures to be taken.

An Environmental Protection Plan shall be developed and an electronic copy submitted by the Contractor to the Contracting Officer before the Preconstruction Meeting.

Revise the EPP throughout the Project to include any reporting requirements, changes in Site conditions, or Contract modifications that change the Project Scope of Work in a way that could have an environmental impact.

No requirement in this Specification Section will relieve the Contractor of any applicable federal, state, and local environmental protection laws and regulations. During Construction, identify, implement, and submit for approval any additional requirements to be included in the EPP. Maintain an up-to-date version on-site.

1.9.1 General Overview and Purpose

The purpose of the EPP is to present an overview of known or potential environmental issues that must be considered and addressed prior to commencement of on-site work, during construction, and at closeout for deliverables at conclusion of construction.

Include in the EPP measures for protecting natural, historical, archaeological, and cultural resources; including required reports, and other measures to be taken.

At a minimum, the EPP shall provide the following information:

a. Contractor Environmental Professional(s) Qualifications and Environmental Emergency Contact Information

b. Detail on environmental commitments, mitigation and conservation measures, and applicable standards.

c. A description of the methods and procedures by which the Contractor intends to minimize/mitigate adverse impact to the environment resulting from the Work.

d. Identification of reporting and record keeping requirements.

1.9.2 EPP Contents

The EPP includes, but is not limited to, the following elements:

1.9.2.1 Title Page

Provide a title page identifying the Project, location, revision date, and Contract Number(s). The title page shall be followed by a table of contents with hyperlinks to each of the following sections.

1.9.2.2 Environmental Emergency Contact Information

Include a dedicated page or pages for environmental emergency contact information (name, organization or agency, office phone number, cell phone number, and e-mail address).

1.9.2.3 Executive Summary

Provide a brief description of each specific plan required by environmental Permit or elsewhere in this Contract such as: Contaminated Environmental Media Contingency Plan, Regulatory Agency Work Plan, stormwater pollution prevention plan, spill control plan, waste management plan, a historical, archaeological, cultural resources, biological resources and wetlands plan .

1.9.2.4 Introduction

Following the Executive Summary, the EPP should include an Introduction section. The Introduction section shall provide a description of the duties, procedures, communications and training, along with General Project Site Information and Work Plans.

Include the following items in the Introduction section of the EPP:

1.9.2.4.1 Duties

The duties and level of authority assigned to the person(s) on the Project Site who oversee environmental compliance, such as who is responsible for adherence to the EPP, who is responsible for spill cleanup and training personnel on spill response procedures, who is responsible for manifesting hazardous waste to be removed from the Site (if applicable), and who is responsible for training the Contractor's environmental protection personnel.

1.9.2.4.2 Procedures

A copy of any standard or Project-specific operating procedures that will be used to effectively manage and protect the environment on the Project Site.

1.9.2.4.3 Communications

Communication and training procedures that will be used to convey environmental management requirements to Contractor employees and subcontractors.

1.9.2.4.4 General Site Information

1.9.2.4.4.1 Figures

Include Figures or Drawings showing locations of relevant items such as proposed temporary excavations or embankments; haul roads; stream crossings; jurisdictional wetlands; material storage areas; structures; sanitary facilities; storm drains and conveyances; natural, historical, archaeological, and/or cultural resources; marine mammal zones; and stockpiles of excess soil.

1.9.2.4.4.2 Work Area

Provide a Work Area Plan showing the proposed activity in each portion of the area and identify the areas of limited use or nonuse. Include measures for marking the limits of use areas, including methods for protection of features to be preserved within authorized Work Areas and methods to control runoff and to contain materials on Site, and a traffic control plan.

1.9.2.5 Environmental Commitments Developed During Planning

Contractor shall identify all required environmental Permits, approvals, notifications, etc. from federal, state, and local regulatory agencies. The EPP shall also outline the procedure and provide draft compliance plans for any anticipated environmental regulatory compliance procedures not included in the Project Specifications or provided by the Government at Project Award.

List ALL applicable Environmental Licenses, Permits, and Approvals required for the Project. Identify notifications that have been completed and which approvals have been received. Also indicate which notifications and Permit applications must still be made. Some Permits require up to 180 days to obtain. Demonstrate that those Permits have been obtained or applied for by referencing and including copies of applicable environmental Permits or applications . The EPP will not be approved until the Permits have been obtained.

1.9.2.6 Project Specific Environmental Permits, Licenses, Approvals, Regulations, and Issues

The EPP shall include copies of the following documents at a minimum:

a. A letter signed by an officer of the firm appointing the Environmental Manager and stating that person is responsible for managing and implementing the Environmental Program as described in this Contract. Include in this letter the Environmental Manager's authority to direct the removal and replacement of non-conforming Work. Provide a copy of the Environmental Manager's Qualifications immediately following this letter.

b. Completed ADEC documentation and any other environmental agency regulatory approval documentation applicable to the Project. For example, if a SWPPP is required for coverage under a Stormwater General Permit, then the EPP shall also include the approved copy of or reference to the SWPPP.

c. The EPP shall always include a copy of the Contaminated Environmental Media Contingency Plan or reference to the EMP.

1.9.2.7 Erosion and Sediment Control

Include detail on how erosion and sediment control will be executed for the Project. Reference and include any regulatory approvals and mitigation measures. If a SWPPP is provided, it should be referenced in this section of the EPP. The following information shall be provided at a minimum:

a. Ground cover

b. Erodible soils

c. Temporary measures

(1) Structural Practices

(2) Temporary and permanent stabilization

d. Effective selection, implementation and maintenance of Best Management Practices (BMPs).

1.9.2.7.1 Erosion and Sediment Control Plan (ESCP)

The ESCP requirement is in addition to BMP Plan required under the Excavation Dewatering General Permit, but not required if there is a project specific SWPPP. Include the following:

a. A brief Project description.

b. Total disturbed acreage in accordance with APDES's Construction General Permit definitions. (For this Project, the estimated total disturbed acreage has been calculated by the U.S. Coast Guard to be approximately less than one acre acres.)

c. Waters of the United States that the Project will drain onto.

d. The sequence of construction events.

e. Stormwater BMPs that will be applied to the Site.

f. Site map showing location of BMP measures.

g. Description of periodic and routine inspections.

h. How and where hazardous materials will be handled and stored on site.

i. Exposed soil coverage practices.

j. Final site stabilization method(s).

1.9.2.8 Prevention of Releases to the Environment

This part of the EPP shall include a description of the Contractor's means and methods to prevent releases to the environment and shall include the Spill Prevention Plan.

1.9.2.8.1 Spill Prevention Plan

The Spill Prevention Plan shall include the Contractor's procedures to prevent any releases to the environment and notification requirements to federal, state, local agencies, including the facility's Response and Readiness contacts (i.e. fire department, environmental department, etc) in the event of an accidental release. The Project SPCC document shall be referenced in this portion of the EPP and the Contractor's procedures shall comply with the applicable requirements of the installation's SPCC.

This part of the EPP shall also describe management of temporary equipment fueling operations to include release prevention, on-site spill kit placement, and cleanup capabilities.

1.9.2.9 Contaminated Environmental Media Contingency Plan

When an EMP is not provided or required for a Project, then the Contractor shall develop a Contaminated Environmental Media Contingency Plan. This plan shall cover procedures in case of inadvertent discovery or generation of contaminated environmental media.

The Contaminated Environmental Media Contingency Plan shall be approved by the Contracting Officer and shall be included in the EPP as well as provided and available as a stand-alone document.

In cases of inadvertent discovery of contaminated environmental media the Contractor shall immediately notify the Contracting Officer.

1.9.2.10 Management of Natural Resources

Management of Natural Resources includes, but is not limited to the following:

a. Land resources

b. Tree protection

c. Replacement of damaged landscape features

d. Temporary construction

e. Stream crossings

f. Fish and wildlife resources

g. Wetland areas

1.9.2.10.1 Land Resources

The Biological Assessment must identify all necessary brush and vegetation removal. Include procedures for protecting existing trees and vegetation to remain which may be impacted by the Work. Also include procedures for restoring and replacing damaged landscape features. Tree removal must be approved by the Contracting Officer.

1.9.2.10.2 Biological Resources

The Biological Assessment must identify all necessary procedures to mitigate and prevent impact to biological resources including:

a. Migratory Birds

b. Threatened and Endangered Species

c. Fish Habitats

d. Bald Eagles

1.9.2.10.3 Wetlands and Waterways

Include general procedures for protection of wetlands and waterways. Reference applicable regulatory approvals, commitments, and compliance measures. If the Project is located within or near a protected wetland or waterway, include detailed Work restrictions and requirements.

1.9.2.10.4 Working In or Around Marine Environments

Include general requirements, safety procedures, and special environmental considerations applicable to the Project specifically related to Work in a marine environment.

1.9.2.11 Dewatering

If the Project involves or requires any dewatering activities, a section shall be provided in the EPP which identifies and references all applicable regulatory agency Permits, commitments, and approvals.

This part of the EPP shall describe how compliance with regulatory requirements will be maintained, required notifications, and the Contractor personnel responsible for overseeing the dewatering operations.

Coordinate dewatering requirements with all other Project Specification Sections and include a list and information for all equipment and accessories.

1.9.2.12 Solid Waste Management

Describe protection of the environment from Contractor generated waste, including both control and disposal of solid and sanitary waste as well as control and disposal of hazardous waste or wastewater mangement. Include, reference, or attach the solid waste management plan.

1.9.2.13 Air Pollution Control

1.9.2.13.1 Dirt and Dust Control Plan

Include truck and material haul routes along with a Dirt and Dust Control Plan for controlling dirt, debris, and dust on Installation 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.

Where the Project involves any interior Work, include a plan for controlling dust and debris in interior environments.

1.9.2.13.2 Pollution Generating Equipment

Identify air pollution generating equipment or processes that may require federal, state, or local Permits under the Clean Air Act. Determine requirements based on any current U.S. Coast Guard Installation Permits and the impacts of the Project. Provide a list of all fixed or mobile equipment, machinery or operations that could generate air emissions during the Project to the Contracting Officer.

1.9.2.13.3 Stationary Internal Combustion Engines

Identify portable and stationary internal combustion engines that will be supplied, used or serviced. Comply with 40 CFR 60 Subpart IIII, 40 CFR 60 Subpart JJJJ, 40 CFR 63 Subpart ZZZZ, and local regulations as applicable. At minimum, include the make, model, serial number, manufacture date, size (engine brake horsepower), and EPA emission certification status of each engine. Maintain applicable records and log hours of operation and fuel use. Logs must include reasons for operation and delineate between emergency and non-emergency operation.

1.9.2.13.4 Refrigerants

Identify management practices to ensure that heating, ventilation, and air conditioning (HVAC) Work involving refrigerants complies with 40 CFR 82 requirements. Technicians must be certified, maintain copies of certification on-site, use certified equipment and log Work that requires the addition or removal of refrigerant.

1.9.2.13.5 Air Pollution-engineering Processes

Identify planned air pollution-generating processes and management control measures (including, but not limited to, spray painting, abrasive blasting, demolition, material handling, fugitive dust, and fugitive emissions). Log hours of operations and track quantities of materials used.

1.9.2.13.6 Compliant Materials

Provide the Government a list of and SDSs for all hazardous materials

proposed for use on-site. Materials must be compliant with all Clean Air Act regulations for emissions including solvent and volatile organic compound contents, and applicable National Emission Standards for Hazardous Air Pollutants requirements. The Government may alter or limit use of specific materials as needed to meet the U.S. Coast Guard Installation's Permit requirements for emissions. The Environmental Protection Plan shall include methods for maintaining SDS for all products introduced to the Work, Project Site, and/or U.S. Coast Guard Property.

1.9.2.14 Noise Control

Describe procedures to mitigate noise generating construction activities and equipment concerns.

Anticipated noise concerns include: Disruption to existing operations and occupied spaces;.

1.9.2.15 Protection of Historical, Archaeological, and Cultural Resources

Describe the methods and objectives for Protection of Historical, Archaeological, and Cultural Resources.

Identify all such resources that exist at the Project Site or that may be impacted by the Work. Reference reports, commitments, approvals, and mitigation measures that have been provided and/or coordinated with agencies such as the State of Alaska Office of History and Archaeology (OHA).

Identify the procedures and mitigation measures that will be incorporated into the Work for the protection of historical, archaeological, and cultural resources.

1.9.2.15.1 Historical Resources

The Project Site is located in a historically significant area. Reference the Drawings and include a narrative in this part of the EPP demonstrating how compliance with the commitments and mitigation measures related to all historic preservation requirements will be achieved. Also include all related qualification and reporting requirements in the EPP.

1.9.2.16 Incident Reporting

Provide an outline to summarize, communicate, and to clearly detail the proper procedures, notifications, reporting and treatment of discoveries, emergencies, and other potential incidents or issues, as required by all items to be included in the EPP..

1.9.2.17 Record Keeping and Reporting

Review the Project's Submittal Register and indicate all environmental submittal requirements. Identify critical path items.

Describe all reporting and notification procedures required by this Project Specification Section, including other Project Specification Sections that may be referenced herein.

Identify Project Close Out requirements and how compliance with the associated procedural requirements will be achieved. Include a copy of any regulatory notifications or Permits generated or received by the

Contractor (e.g., NOIs, NOTs, letters of authorization, etc.). Make separate parts within this section that correspond to each submittal listed under paragraph CLOSEOUT SUBMITTALS in this Specification Section.

1.10 ENVIRONMENTAL RECORDS BINDER

Maintain on-site a separate three-ring Environmental Records Binder and submit to Contracting Officer at the completion of the Project. Make separate parts within the binder that correspond to each submittal listed under paragraph CLOSEOUT SUBMITTALS in this Specification Section.

PART 2 PRODUCTS

2.1 BANNED PRODUCTS

The following listed products are prohibited by law and U.S. Coast Guard regulation from incorporation into the Work:

a. Any hazardous materials that will create EPA "P" listed waste.

b. Extremely Flammable Adhesives: In accordance with 16 CFR 1302 non-aerosol contact adhesives and similar liquids or semi-liquids with a flash point below 20F and consisting of 70% - 90% solvents by weight are prohibited.

c. Lead-Based Paint (LBP): In accordance with 16 CFR 1303, paint and similar surface coating materials that contain lead or lead compounds in excess of 0.06% of the dry film weight are prohibited. Products and furnishings coated with LBP are also prohibited.

d. Asbestos Containing Material (ACM): In accordance with 16 CFR 1304, any patching or binding ACM that must be mixed with water or that is a ready-mix paste and does not contain resins or other bonding agents is prohibited. In accordance with 40 CFR 61.148, the use of ACM for insulating and covering materials is prohibited if the material will be friable after installation.

e. CFC's: In accordance with 40 CFR 82, air horns, cleaning fluid, flexible plastics, foam products aerosols and pressurized containing CFC's are prohibited.

f. PCB's: In accordance with 40 CFR 761, items with a PCB concentration equal to or greater than 50 ppm are prohibited. Furthermore, no products containing any concentration of PCB's are permitted.

g. Methylene Chloride or products containing this chemical (e.g., strippers and solvents).

h. Methyl Ethyl Ketone or products containing this chemical.

i. Hexavalent Chromium Cr(VI) (Hex Chrome) or products containing this compound.

PART 3 EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

a. Minimize interference with, disturbance to, and damage to fish, wildlife, and plants, including their habitats. Prior to the commencement of activities, consult with the Contracting Officer regarding rare species or sensitive habitats that need to be protected. The protection of rare, threatened, and endangered animal and plant species identified, including their habitats, is the Contractor's responsibility.

b. Preserve the natural resources within the Project boundaries and outside the limits of permanent Work. . Confine construction activities to within the limits of the Work indicated or specified.

3.1.1 Flow Ways

Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the Project and critical to the survival of fish and wildlife, except as specified and permitted.

3.1.2 Vegetation

a. Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Contracting Officer's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attached ropes, cables, or guys is authorized, the Contractor is responsible for any resultant damage.

b. Protect existing trees that are to remain to ensure they are not injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. Coordinate with the Contracting Officer to determine appropriate action for trees and other landscape features scarred or damaged by equipment operations.

3.1.3 Streams

a. Stream crossings must allow movement of materials or equipment without violating water pollution control standards of the federal, state, and local governments. Construction of stream crossing structures must be in compliance with any required Permits including, but not limited to, Clean Water Act Section 404, and Section 401 Water Quality.

b. The Contracting Officer's approval and appropriate Permits are required before any equipment will be permitted to ford live streams. In areas where frequent crossings are required, install temporary culverts or bridges. Obtain Contracting Officer's approval prior to installation. Remove temporary culverts or bridges upon completion of Work, and repair the area to its original condition unless otherwise required by the Contracting Officer.

3.2 STORMWATER

Do not discharge stormwater from Work Sites to the sanitary sewer. If the water is noted or suspected of being contaminated, it may only be released to the storm drain system if the discharge is specifically permitted under APDES. Obtain authorization in advance from ADEC for any release of contaminated water.

Temporary weather protection such as tarps shall be used to cover materials and unpainted metal supplies as necessary to prevent runoff, especially metal runoff to stormwater.

3.2.1 Construction General Permit (CGP) Compliance

Under the terms and conditions of the Alaska Construction General Permit for Stormwater Discharges for Large and Small Construction Activities, Alaska Excavation Dewatering General Permit, and the Base Kodiak Digging Permit, and the Digging Permit, install, inspect, maintain BMPs, prepare stormwater erosion and sediment control inspection reports, and submit SWPPP inspection reports. Maintain construction operations and management in compliance with, and in strict adherence to the terms and conditions of the General Permit for Stormwater Discharges from Construction Activities.

3.2.2 Erosion and Sediment Control Measures

All erosion control Work shall be considered incidental to the other items in the Contract. Provide erosion and sediment control measures in accordance with state and local laws and regulations. Preserve vegetation to the maximum extent practicable.

Erosion control inspection reports may be compiled as part of a stormwater pollution prevention plan inspection reports.

The Contractor shall install temporary erosion control structures as necessary and/or as directed by the Contracting Officer. They shall be maintained in effective operating condition at all times. Best Management Practices (BMPs) shall be cleaned, repaired, or replaced as necessary. Prior to completion of Work, the Contractor shall clean and remove all silt and debris from the BMPs.

Earthwork brought to final grade shall be immediately finished. Protect side and back slopes upon completion of rough grading. Plan and conduct earthwork to minimize the duration of exposure of unprotected soils. Use the following methods to prevent erosion, control sedimentation, and prevent waterborne soil from entering surface waters, ditches, and storm drain inlets.

3.2.2.1 Erosion Control

The Contractor shall be responsible for all Permits required near streams and water bodies and, therefore, shall be responsible for the quality of the run-off water from the Project Site and for any fine and penalties resulting from the Project Work.

Prevent erosion by mulching, Compost Blankets, Geotextiles, temporary slope drains,. Stabilize slopes by sodding, seeding, or such combination of these methods necessary for effective erosion control. Use of hay bales is prohibited.

Temporary erosion control structures shall remain in place until replaced by permanent erosion control Work, or until the Contracting Officer approves their removal.

3.2.2.2 Sediment Control Practices

Implement sediment control practices to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the Site. Implement sediment control practices prior to soil disturbance and prior to creating areas with concentrated flow, during the construction process to minimize erosion and sediment laden runoff. Include the following devices: silt fence, temporary diversion dikes, storm drain inlet protection,

3.2.3 Work Area Limits

Mark the areas that need not be disturbed under this Contract prior to commencing construction activities. Mark or fence isolated areas within the general Work Area that are not to be disturbed. Protect monuments and markers before construction operations commence. Where construction operations are to be conducted during darkness, any markers must be visible in the dark. Personnel must be knowledgeable of the purpose for marking and protecting particular objects.

3.2.4 Contractor Facilities and Work Areas

Place field offices, staging areas, stockpile storage, and temporary buildings in areas designated on the Drawings or as directed by the Contracting Officer. Move or relocate the Contractor facilities only when approved by the Government. Provide erosion and sediment controls for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Control temporary excavation and embankments for plant or Work Areas to protect adjacent areas.

3.3 SURFACE AND GROUNDWATER

3.3.1 General

Contaminated groundwater may occur during excavation activities. The Contractor shall provide handling, monitoring, testing, and treatment.

The Contractor shall coordinate all aspects of the Work involving contaminated groundwater and dewatering with the approved EPP, Project Specifications and all permitting activities.

The Contractor shall also be responsible for handling, stockpiling, transportation, and disposal of any contaminated groundwater.

Reference the following Project Specification Sections for additional requirements:

02 41 00 DEMOLITION

3.3.2 Waters of the United States

Do not enter, disturb, destroy, or allow discharge of contaminants or fill material into Waters of the United States. The protection of Waters of the United States is the Contractor's responsibility. Authorization to

enter specific waters of the United States does not relieve the Contractor from any obligation to protect other Waters of the United States within, adjacent to, or in the vicinity of the Project Site and associated boundaries.

3.4 SPILL MEDIA AND CONTAMINATED ENVIRONMENTAL MEDIA

The Contractor shall coordinate all aspects of the Work involving spill media and contaminated environmental media with the Contaminated Environmental Contingency Plan, approved Contractor EPP, Project Specifications, and all related permitting activities.

At a minimum, and as required to satisfy ADEC requirements, the Contractor will be responsible for providing field screening and testing services by a QEP for all ground disturbing activities.

Field screening shall include screening and testing services for spill media and suspected contaminated environmental media. Field screening and testing services shall be performed by a Qualified Environmental Professional in accordance with 18 AAC 75 Section 333.

The Contractor shall be responsible for handling, transportation, and disposal of any spill media or contaminated environmental media in accordance with 18 AAC 75 Article 3. Following sampling, all excess environmental media shall be removed from the Project Site.

Long term stockpiling of spill media or contaminated environmental media at the Project Site is not acceptable. Storing spill media or contaminated environmental media in holding areas after Project Close-Out is not acceptable.

The Contractor shall also be responsible for completion of the ADEC Contaminated Sites Program Transport, Treatment, and Disposal Approval Form for Contaminated Environmental Media as well as all associated sampling, screening, handling, stockpiling, transportation, and disposal of any spill media or contaminated environmental media including associated regulatory agency approvals, as detailed in the EPP.

Reference the following Project Specification Sections for additional requirements:

02 41 00 DEMOLITION

3.5 PROTECTION OF HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Protection of all historical, archaeological, and culturally significant resources is the Contractor's responsibility. Prior to the commencement of activities, consult with the Contracting Officer regarding protection of any known historical, archaeological, and culturally significant resources.

If, during excavation or other construction activities, any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, activities that may damage or alter such resources will be suspended. Resources covered by this paragraph include, but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery

or find, immediately notify the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. Cease all activities that may result in impact to or the destruction of these resources. Secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

3.5.1 Historical Resources

Protect historic resources and be responsible for their preservation during the life of the Contract.

3.6 AIR RESOURCES

Comply with all local, state, and federal regulations including 40 CFR 64 and state air emission and performance laws and standards.

3.6.1 Air Permits

Notify the Contracting Officerprior to bringing equipment, assembled or unassembled, onto the Installation , so that Air Permits may be updated. Necessary permitting time must be considered in regard to construction activities.

3.6.2 Oil or Dual-fuel Boilers and Furnaces

Provide product data and details for new, replacement, or relocated fuel fired boilers, heaters, or furnaces to theContracting Officer. Data to be reported include: equipment purpose (water heater, building heat, process), manufacturer, model number, serial number, fuel type (oil type, gas type) size (MMBTU heat input). Provide in accordance with paragraph PRECONSTRUCTION AIR PERMITS.

3.6.3 Burning

Burning is prohibited at all U.S. Coast Guard District 17 Installations and Project Sites.

3.6.4 Class I and II ODS Prohibition

Class I and Class II ODS are defined in Section, 602(a) and (b), of The Clean Air Act. Prevent discharge of Class I and Class II ODS to the atmosphere. Place recovered ODS in cylinders meeting AHRI Guideline K suitable for the type ODS (filled to no more than 80 percent capacity) and provide appropriate labeling. Recovered ODS shall be removed from Government property and disposed of in accordance with 40 CFR 82, unless otherwise directed by the Contracting Officer.

Products, equipment and appliances containing ODS in a sealed, self-contained system (e.g. residential refrigerators and window air conditioners) shall be disposed of in accordance with 40 CFR 82. Submit Receipts or bills of lading, as specified.

Certified technicians must perform refrigerant work using EPA-approved recovery equipment. Releases of ODS or refrigerants to the atmosphere is strictly prohibited.

No more than one type of ODS is permitted in each container. A

warning/hazardous label shall be applied to the containers in accordance with Department of Transportation regulations. All cylinders including but not limited to fire extinguishers, spheres, or canisters containing an ODS shall have a tag with the following information:
a. Activity name and unit identification code
b. Activity point of contact and phone number
c. Type of ODS and pounds of ODS contained
d. Date of shipment
e. National stock number

3.6.5 Accidental Venting of Refrigerant

Accidental venting of a refrigerant is a release and must be reported immediately to the Contracting Officer.

3.6.6 EPA Certification Requirements

Heating and air conditioning technicians must be certified through an EPA-approved program. Maintain copies of certifications at the employees' places of business; technicians must carry certification wallet cards, as provided by environmental law.

3.6.7 Dust Control

Keep dust down at all times, including during nonworking periods. Dry power brooming will not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing will be permitted only for cleaning nonparticulate debris such as steel reinforcing bars. Only wet cutting will be permitted for cutting concrete blocks, concrete, and bituminous concrete. Do not unnecessarily shake bags of cement, concrete mortar, or plaster. Since these products contain Crystalline Silica, comply with the applicable OSHA standard, 29 CFR 1910.1053 or 29 CFR 1926.1153 for controlling exposure to Crystalline Silica Dust.

3.6.7.1 Particulates

Dust particles, aerosols and gaseous by-products from construction activities, and processing and preparation of materials (such as from asphaltic batch plants) must be controlled at all times, including weekends, holidays, and hours when Work is not in progress. Maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other Work Areas within or outside the Project boundaries free from particulates that would exceed 40 CFR 50, state, and local air pollution standards or that would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators, or other methods will be permitted to control particulates in the Work Area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp. Provide sufficient, competent equipment available to accomplish these tasks. Perform particulate control as the Work proceeds and whenever a particulate nuisance or hazard occurs. Comply with state and local visibility regulations.

3.6.7.2 Abrasive Blasting

Generation and accumulation of spent abrasive blasting media are subject to the hazardous waste generator regulations. Manage spent blasting media in accordance with federal, state, local regulations and contract spec

1.9.2.10.2 Control and Disposal of Hazardous Waste; and 3.8 Waste Management & Disposal.

Blasting operations cannot be performed without prior approval of the Contracting Officer. 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.

3.6.8 Odors

Control odors from construction activities. The odors must be in compliance with state regulations and local ordinances and may not constitute a health hazard.

3.7 WASTE MINIMIZATION

Minimize the use of hazardous materials and the generation of waste in accordance with the procedures identified in the approved EPP and in accordance with U.S. Coast Guard standards.

3.7.1 Salvage, Reuse and Recycle

To the extent practicable, all scrap metal must be sent for reuse or recycling and will not be disposed of in a landfill.

Include the name, physical address, and telephone number of the hauler, if transported by a franchised solid waste hauler. Include the destination and, unless exempted, provide a copy of the state or local Permit (cover) or license for recycling.

3.8 WASTE MANAGEMENT AND DISPOSAL

Establishment of any waste accumulation area requires approval by the U.S. Coast Guard Installation and Contracting Officer.

3.8.1 Waste Determination Documentation

Complete and document Waste Determinations for Contractor-derived wastes, provide documentation in Project Solid Waste Disposal Documentation Report. All potentially hazardous solid waste streams that are not subject to a specific exclusion or exemption from the hazardous waste regulations (e.g., scrap metal, domestic sewage) or subject to special rules, (lead-acid batteries and precious metals) must be characterized in accordance with the requirements of 40 CFR 261 or corresponding applicable state or local regulations. Base waste determination on user knowledge of the processes and materials used, and analytical data when necessary. Consult with the Contracting Officer for guidance on specific requirements. Attach support documentation to the Waste Determination form. As a minimum, provide a Waste Determination form for the following waste (this listing is not inclusive): oil- and latex -based painting and caulking products, solvents, adhesives, aerosols, petroleum products, and containers of the original materials. Include

3.8.1.1 Sampling and Analysis of Waste

3.8.1.1.1 Waste Sampling

Sample waste in accordance with EPA SW-846. Clearly mark each sampled drum or container with the Contractor's identification number, and cross reference to the chemical analysis performed.

3.8.1.1.2 Laboratory Analysis

Follow the analytical procedure and methods in accordance with the 40 CFR 261. Provide copies of chain of custody forms, analytical results and reports to the Contracting Officer.

3.8.1.1.3 Analysis Type

Identify hazardous waste by analyzing for the following characteristics: ignitability, corrosivity, reactivity, toxicity based on TCLP results, .

3.8.2 Solid Waste Management

3.8.2.1 Project Solid Waste Disposal Documentation Report

Contractor must maintain Hazardous and Non-Hazardous Waste Manifests and submit LDR forms in accordance with 49 CFR 172 and EPA, State, and Local requirements and regulations. Include copies of all manifests and LDR forms in the Project's Solid Waste Disposal Documentation Reports.

In addition, provide copies of the waste handling facilities' weight tickets, receipts, bills of sale, and other sales documentation. In lieu of sales documentation, a statement indicating the disposal location for the solid waste that is signed by an employee authorized to legally obligate or bind the firm may be submitted. The sales documentation must 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 for the Contractor's own use, submit the information previously described in this paragraph on the solid waste disposal report. Prices paid or received do not have to be reported to the Contracting Officer unless required by other provisions or Specifications of this Contract or public law.

The Contractor shall provide the TRI dataset threshold calculations information in accordance with Emergency Planning and Community Right-to-Know Act (EPCRA), also known as SARA Title III, codified in the regulations at 40 CFR Chapter I Subchapter J Sections 302, 355, 370 and 372, to include:

a. Off-site transfers of TRI chemicals for disposal and/or offsite treatment of contaminated media, including address of receiving facility, analyte concentration, and volume shipped (example spreadsheet available by request from COR)
b. On-site releases and other disposal of toxic chemicals to air, surface water and land
c. On-site recycling, treatment and energy recovery associated with TRI chemicals (ie processing contaminated waste water from dewatering activities)
d. Pollution prevention activities at facilities
e. Releases of lead, mercury, dioxin and other persistent, bio accumulative, and toxic (PBT) chemicals

Contractor is not required to submit the TRI-R Report to Federal, State, and Local regulatory agencies.

Include all disposal documentation and waste determinations in this report.

3.8.2.2 Control and Management of Solid Wastes

Pick up solid wastes, and place in covered containers that are regularly emptied. Do not prepare or cook food on the Project Site. Prevent contamination of the Site or other areas when handling and disposing of wastes. At Project completion, leave the areas clean. Employ segregation measures so that no hazardous or toxic waste will become co-mingled with non-hazardous solid waste. Transport solid waste off Government property and dispose of it in compliance with 40 CFR 260, state, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill is the minimum acceptable off-site solid waste disposal option. Verify that the selected transporters and disposal facilities have the necessary Permits and licenses to operate. Segregate and separate treated wood components disposed at a lined landfill approved to accept this waste in accordance with local and state regulations. 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 hazardous material used in construction, including but not limited to, aerosol cans, waste paint, cleaning solvents, contaminated brushes, and used rags, in accordance with 49 CFR 173.

3.8.3 Control and Management of Hazardous Waste

Do not dispose of hazardous waste on Government property. Do not discharge any waste to a sanitary sewer, storm drain, or to surface waters or conduct waste treatment or disposal on Government property without written approval of the Contracting Officer.

3.8.3.1 Hazardous Waste/Debris Management

Identify construction activities that will generate hazardous waste or debris. Provide a documented waste determination for resultant waste streams. Identify, label, handle, store, and dispose of hazardous waste or debris in accordance with federal, state, and local regulations, including 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, 40 CFR 265, 40 CFR 266, and 40 CFR 268.

Contractor must provide 35 and 45 day notification and updates to the Contracting Officer for any Hazardous Waste Manifests generated and not returned by the designated regulatory dates on that designated day or the business day immediately prior (for dates that fall on non-business days).

Manage hazardous waste in accordance with the approved Hazardous Waste Management Section of the EPP. Store hazardous wastes in approved containers in accordance with 49 CFR 173 and 49 CFR 178. Hazardous waste generated within the confines of Government facilities is identified as being generated by the Government. Prior to removal of any hazardous waste from Government property, hazardous waste manifests must be signed and reviewed by the Installation or the Contracting Officer. Do not bring hazardous waste onto Government property. Provide the Contracting Officer with 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.

3.8.3.2 Waste Storage/Satellite Accumulation

Accumulate hazardous waste at satellite accumulation points and in compliance with 40 CFR 262.34 and applicable state or local regulations. Individual waste streams will be limited to 55 gallons of accumulation (or 1 quart for acutely hazardous wastes). If the Contractor expects to generate hazardous waste at a rate and quantity that makes satellite accumulation impractical, the Contractor may request a temporary 90 day accumulation point be established. Submit a request in writing to the Contracting Officer and provide the following information (Attach Site Plan to the Request):

Contract Number	
Contractor	
Haz/Waste or Regulated Waste POC	
Phone Number	
Type of Waste	
Source of Waste	
Emergency POC	
Phone Number	
Location of the Site	

Attach a Waste Determination form for the expected waste streams. Additional compliance requirements (e.g., training and contingency planning) that may be required are the responsibility of the Contractor. Barricade the designated area where waste is being stored and post a sign identifying as follows:

"DANGER - UNAUTHORIZED PERSONNEL KEEP OUT"

3.8.3.3 Hazardous Waste Disposal

3.8.3.3.1 Responsibilities for Contractor's Disposal

Provide hazardous waste manifest to the Contracting Officerfor review, approval, and signature prior to shipping waste off Government property in addition to requirements outlined in the Solid Waste Management Plan section.

3.8.3.3.1.1 Services

Provide service necessary for the final treatment or disposal of the hazardous material or waste in accordance with 40 CFR 260, local, and state, laws and regulations, and the terms and conditions of the Contract within 60 days after the materials have been generated. These services include necessary personnel, labor, transportation, packaging, detailed analysis (if required for disposal or transportation, include manifesting or complete waste profile sheets, equipment, and compile documentation).

Submit disposal documentation for hazardous and regulated waste.

3.8.3.3.1.2 Samples

Obtain a representative sample of the material generated for each job done to provide waste stream determination.

3.8.3.3.1.3 Analysis

Analyze each sample taken and provide analytical results to the Contracting Officer. As back up documentation, provide analytical sampling in a Microsoft Excel spreadsheet. See paragraph WASTE DETERMINATION DOCUMENTATION.

3.8.3.3.1.4 Labeling

Determine the Department of Transportation's (DOT's) proper shipping names for waste (each container requiring disposal) and demonstrate to the Contracting Officer how this determination is developed and supported by the sampling and analysis requirements contained herein. Label all containers of hazardous waste with the words "Hazardous Waste" or other words to describe the contents of the container in accordance with 40 CFR 262.31 and applicable state or local regulations.

3.8.3.3.2 Contractor Disposal Turn-In Requirements

Hazardous waste generated must be disposed of in accordance with the following conditions to meet U.S. Coast Guard requirements:

a. Drums must be compatible with waste contents and drums must meet DOT requirements for 49 CFR 173 for transportation of materials.

b. Band drums to wooden pallets.

c. No more than three 55 gallon drums or two 85 gallon over packs are to be banded to a pallet.

d. Band using 1-1/4 inch minimum band on upper third of drum.

e. Provide labeling in accordance with 49 CFR 172.101.

f. Leave 3 to 5 inches of empty space above volume of material.

3.8.3.4 Universal Waste Management

Manage the following categories of universal waste in accordance with federal, state, and local requirements and U.S. Coast Guard instructions:

a. Batteries as described in 40 CFR 273.2

b. Lamps as described in 40 CFR 273.5

c. Mercury-containing equipment as described in 40 CFR 273.4. 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.

d. Aerosol cans as described in 40 CFR 273.6

3.8.3.5 Electronics End-of-Life Management

Recycle or dispose of electronics waste, including, but not limited to, used electronic devices such computers, monitors, hard-copy devices, televisions, mobile devices, in accordance with 40 CFR 260-262, state, and local requirements, and U.S. Coast Guard instructions.

3.8.3.6 Disposal Documentation for Hazardous and Regulated Waste

Contact the Contracting Officer for the facility RCRA identification number that is to be used on each manifest.

Submit a copy of the applicable EPA and or state Permit(s), manifest(s), or license(s) for transportation, treatment, storage, and disposal of hazardous and regulated waste by permitted facilities. Hazardous or toxic waste manifests must be reviewed, signed, and approved by the Contracting Officer before the Contractor may ship waste. To obtain specific disposal instructions, coordinate with the Contracting Officer to determine the appropriate U.S. Coast Guard Point(s) of Contact information. Include Disposal Documentation in Project Solid Waste Disposal Documentation Report

3.8.4 Releases/Spills of Oil and Hazardous Substances

3.8.4.1 Response and Notifications

Spill reporting must be in accordance with all federal, state, and local requirements and regulations as well as Base Kodiak's Integrated Emergency Response & Prevention Plan (IERPP) available at the following website:

https://dec.alaska.gov/Applications/SPAR/PublicMVC/IPP/ApprovedCPlans/.

Exercise due diligence to prevent, contain, and respond to spills of hazardous material, hazardous substances, hazardous waste, sewage, regulated gas, petroleum, lubrication oil, and other substances regulated in accordance with 40 CFR 300. Maintain spill cleanup equipment and materials at the Project 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 U.S. Coast Guard Installation's Command Duty Officer and Contracting Officer.

In the event of a spill or accidental discharge:

a. Contact the U.S. Coast Guard Base Kodiak Police Department First.

b. Then contact the following personnel in this order:

1) U.S. Coast Guard Base Kodiak's Command Duty Officer/Officer on Duty.

2) U.S. Coast Guard Base Kodiak Facility Engineering Watchstander.

3) U.S. Coast Guard Base Kodiak Facilities Engineering Environmental Division Chief/Readiness Officer.

4) Contracting Officer.

Submit verbal and written notifications as required by the federal (40 CFR 300.125 and 40 CFR 355), state, local regulations and instructions. Provide copies of the written notification and documentation that a verbal notification was made within 20 days. Spill response must be in accordance with 40 CFR 300 and applicable state and local regulations. Contain and clean up these spills without cost to the Government.

3.8.4.2 Clean Up

Clean up hazardous and non-hazardous waste spills. Reimburse the Government for costs incurred including sample analysis materials, clothing, equipment, spill clean-up material disposal, and labor if the Government will initiate its own spill cleanup procedures, for Contractor-responsible spills, when: Spill cleanup procedures have not begun within one hour of spill discovery/occurrence; or, in the Government's judgment, spill cleanup is inadequate and the spill remains a threat to human health or the environment.

3.8.5 Mercury Materials

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.

Do not recycle a mercury spill cleanup; manage it as a hazardous waste for disposal.

3.8.6 Wastewater

3.8.6.1 Disposal of Wastewater

3.8.6.1.1 Treatment

Do not allow wastewater from construction activities, such as on-site material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, and forms to enter water ways or to be discharged prior to being treated to remove pollutants. Dispose of the construction related waste water off-Government property in accordance with 40 CFR 403, state, regional, and local laws and regulations.

3.8.6.1.2 Surface Discharge

For discharge of ground water, obtain coverage under a state Permit specific for pumping and discharging ground water prior to surface discharging.

3.9 HAZARDOUS CONSTRUCTION MATERIAL MANAGEMENT

Comply with all requirements of the approved EPP and Safety Plan, and the Project Specifications including, but not limited to, this Section and Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

Do not bring hazardous material onto Government property that does not directly relate to requirements for the performance of this Contract. Submit an SDS and estimated quantities to be used for each hazardous material to the Contracting Officer prior to bringing the material on the U.S. Coast Guard Installation or Project Site. Typical materials requiring SDS and quantity reporting include, but are not limited to, oil and latex based painting and caulking products, solvents, adhesives, aerosol, and petroleum products. Use hazardous materials in a manner that minimizes the amount of hazardous waste generated. Containers of hazardous materials must have National Fire Protection Association labels or their equivalent. Certify that hazardous materials removed from the Site are hazardous materials and do not meet the definition of hazardous waste, in accordance with 40 CFR 261.

Maintain on site throughout the duration of construction: Safety Data Sheets (SDS) in accordance with 48 CFR 52.223-3, Hazardous Material Identification and Material Safety Data, for materials required by federal or State of Alaska environmental laws, or for which the permissible Exposure Limit (PEL), Ceiling Limit, Short Term Exposure Limit (STEL), or Threshold Limit Value (TLV) has been established, and the products are introduced to Government property.

3.10 PREVIOUSLY USED EQUIPMENT

Clean previously used construction equipment prior to bringing it onto the Project Site. Equipment must be free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. Consult with the U.S. Department of Agriculture jurisdictional office for additional cleaning requirements.

3.11 CONTROL AND MANAGEMENT OF ASBESTOS-CONTAINING MATERIAL (ACM)

Manage and dispose of asbestos-containing waste in accordance with 40 CFR 61. Manifest asbestos-containing waste and provide the manifest to the Contracting Officer. Federal and State notifications may be required before starting any asbestos Work.

3.11.1 NESHAP Records

The Contractor is responsible for NESHAP filing and follow up. Contractor must submit a copy of NESHAP records to the Contracting Officer.

3.12 PETROLEUM, OIL, LUBRICANT (POL) STORAGE AND FUELING

POL products include flammable or combustible liquids, such as gasoline, diesel, lubricating oil, used engine oil, hydraulic oil, mineral oil, and cooking oil. Store POL products and fuel equipment and motor vehicles in a manner that affords the maximum protection against spills into the environment. Manage and store POL products in accordance with EPA 40 CFR 112, and other federal, state, regional, and local laws and regulations. Use secondary containments, dikes, curbs, and other barriers, to prevent POL products from spilling and entering the ground, storm or sewer drains, stormwater ditches or canals, or navigable waters of the United States. Describe in the EPP (see paragraph ENVIRONMENTAL PROTECTION PLAN) how POL tanks and containers must be stored, managed, and inspected and what protections must be provided.

3.12.1 Used Oil Management

Manage used oil generated on Site in accordance with 40 CFR 279. Contractor shall be responsible for disposal of all used oil. Disposal shall be at the Contractor's expense. Determine if any used oil generated while on-site exhibits a characteristic of hazardous waste. Used oil containing 1,000 parts per million of halogenated solvents is considered a hazardous waste. Used oil mixed with a hazardous waste is also considered a hazardous waste, commingling of used oil with hazardous waste is prohibited. Dispose in accordance with paragraph HAZARDOUS WASTE DISPOSAL.

3.12.2 Oil Storage Including Fuel Tanks

Provide secondary containment and overfill protection for oil storage tanks. A spill kit shall be on site at all times. A berm used to provide secondary containment must be of sufficient size and strength to contain the contents of the tanks plus 5 inches freeboard for precipitation. Construct the berm to be impervious to oil for 72 hours that no discharge will permeate, drain, infiltrate, or otherwise escape before cleanup occurs. Use drip pans during oil transfer operations; adequate absorbent material must be on-site to clean up any spills and prevent releases to the environment. Cover tanks and drip pans during inclement weather. Provide procedures and equipment to prevent overfilling of tanks. If tanks and containers with an aggregate aboveground capacity greater than 1320 gallons will be used on-site (only containers with a capacity of 55 gallons or greater are counted), provide and implement a SPCC plan meeting the requirements of 40 CFR 112. Do not bring underground storage tanks to the U.S. Coast Guard Installation or Project Site for Contractor use during a Project. Submit the SPCC plan to the Contracting Officer for approval.

Monitor and remove any rainwater that accumulates in open containment dikes or berms. Inspect the accumulated rainwater prior to draining from a containment dike to the environment, to determine there is no oil sheen present.

3.13 INADVERTENT DISCOVERY OF CONTAMINATED ENVIRONMENTAL MEDIA OR HAZARDOUS WASTES

Follow the procedures outlined in the approved Contaminated Environmental Media Contingency Plan or Final EMP. If contaminated environmental media (e.g., petroleum, oil, and lubricant (POL) contaminated soil, underground storage tanks (USTs), etc.) or suspected hazardous waste is found during construction that was not identified in the Contract Documents, the Contractor shall immediately notify the Contracting Officer. Do not disturb this material until authorized by the Contracting Officer.

3.14 PESTICIDES

Wherever possible, avoid the use of pesticides. Whenever a Project requires the use of any pesticides, always minimize use of pesticides and only use pesticides for targeted and identified pests. Consider alternative Design solutions as necessary to limit the use of pesticides and minimize impacts to the environment. Additional scrutiny of the use of pesticides must be provided when the Project is located at or near a sensitive Site (e.g., near residential, child care, or medical facilities, Waters of the United States, salmon spawning grounds, etc.), use of pesticides is prohibited in these areas.

In order to minimize impacts to the environment, coordinate with the Contracting Officer at the earliest possible time prior to pesticide application. Discuss integrated pest management strategies with, and receive concurrence from the Contracting Officer prior to the application of any pesticide associated with these Specifications.

Provide the Contracting Officer the opportunity to be present at meetings concerning treatment measures for pest or disease control and during application of the pesticide. The use and management of pesticides are regulated under 40 CFR 152 - 186.

3.15 CHLORDANE

Evaluate excess soils and concrete foundation debris generated during the demolition of housing units or other wooden structures for the presence of chlordane or other pesticides prior to reuse or final disposal.

3.16 SOUND INTRUSION

Make the maximum use of low-noise emission products and equipment, as certified by the EPA and in compliance with 40 CFR 204 and 40 CFR 205. Blasting or use of explosives are not permitted without written permission from the Contracting Officer, and then only during the designated times.

Keep construction activities under surveillance and control to minimize environment damage by noise.

3.17 POST CONSTRUCTION CLEANUP

Clean up areas used for construction in accordance with with FAR 52.236-12 Cleaning Up. Unless otherwise instructed in writing by the Contracting Officer, remove traces of temporary construction facilities such as haul roads, Work Area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the Work. Grade parking area and similar temporarily used areas to conform with surrounding contours.

-- End of Section --

SECTION 01 78 00

CLOSEOUT SUBMITTALS
11/21

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM E1971	(2005; R 2011) Standard Guide for Stewardship for the Cleaning of Commercial and Institutional Buildings

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.243-4	Changes
FAR 52.246-21	Warranty of Construction

1.2 DEFINITIONS

1.2.1 U.S. Coast Guard Warranty Representative

The U.S. Coast Guard Warranty Representative is the U.S. Coast Guard's point of contact who can request a service/warranty call from the Service Warranty Manager. At U.S. Coast Guard Base Kodiak, the BOSS Contractor exercises warranty response.

1.2.2 Emergency

Under this section, emergency is defined as a failure of a component which will cause a safety hazard or cause increasing damage to facility if not immediately corrected.

1.2.3 Routine Response

Loss of operation, or malfunction causing reduced operability of installed equipment.

1.2.4 Warranty Manager

The Warranty Manager is the Contractor's approved point of contact who will be responsible for all management and implementation of Warranty Work during the warranty phase of this Contract.

1.2.5 Warranty Technician

The Warranty Technician is the Contractor's technician or service Contractor capable and equipped to repair the warranty item. Commercial providers may be used for specialized equipment, and are defined as those companies providing similar commercial services and authorized to provide

such services by the by the equipment manufacturers.

1.3 SOURCE DRAWING FILES

Request the full set of electronic Drawings, in the source format, for Record Drawing preparation, after award and at least 30 days prior to required use.

1.3.1 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of Construction Data for the referenced Project. Any other use or reuse shall be at the sole risk of the Contractor and without liability or legal exposure to the Government. The Contractor must make no claim and waives to the fullest extent permitted by law, any claim or cause of action of any nature against the Government, its agents or sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic CAD Drawing files are not construction documents. Differences may exist between the CAD files and the corresponding construction documents. The Government makes no representation regarding the accuracy or completeness of the electronic CAD files, nor does it make representation to the compatibility of these files with the Contractor hardware or software. In the event that a conflict arises between the signed and sealed construction documents prepared by the Government and the furnished Source Drawing files, the signed and sealed construction documents govern. The Contractor is responsible for determining if any conflict exists. Use of these Source Drawing files does not relieve the Contractor of duty to fully comply with the Contract documents, including and without limitation, the need to check, confirm and coordinate the Work of all Contractors for the Project. If the Contractor uses, duplicates or modifies these electronic Source Drawing files for use in producing Construction Data related to this Contract, remove all previous indicia of ownership (seals, logos, signatures, initials and dates).

1.4 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Warranty Management Plan

SD-08 Manufacturer's Instructions

Posted Instructions

SD-10 Operation and Maintenance Data

Operation and Maintenance ManualsSD-11 Closeout Submittals

Warranty List

As-Built Drawings

Record Drawings

1.5 WARRANTY MANAGEMENT

1.5.1 General Requirements

This Section includes responsibilities in addition to the requirements of Contract Clause FAR 52.246-21, Warranty of Construction and any other extended warranty called for, or extended as a normal part of commercial product practice. The intent of this section is to provide a Warranty program to ensure specific components provided in this Contract will function optimally for their useful design life as defined by the manufacturers and keep their warranties intact. All other manufacturer's extended warranties shall be extended in behalf of the Government, with documentation provided to the Government.

Applicability:

The Contractor shall provide all product warranties as indicated in the individual technical Specification sections. Product warranties shall be obtained directly from the manufacturer or vendor. Such warranties shall be in written format, either standard warranties issued with the product or a letter signed by an official with the authority to so obligate the manufacturer.

Effective Date:

The effective date of product warranties shall be based on the date products are approved for payment by the Contracting Officer. The Contractor shall accurately record the delivery of all materials to the Project Site on the Contract Daily Report. The effective date of product warranties shall be based on the date products are accepted by the Contracting Officer. Normally, this will occur at final acceptance, unless the Government takes earlier use and possession. Progress payment for materials delivered on-site does not imply acceptance.

1.5.2 Warranty Management Plan

Develop a warranty management plan which contains information relevant to FAR 52.246-21 Warranty of Construction. At least 14 days before the planned pre-warranty conference, submit one set of the warranty management plan. Include within the warranty management plan all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan must be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this Contract. The term "status" as indicated below must include due date and whether item has been submitted or was accomplished. Warranty information made available during the construction phase must be submitted to the Contracting Officer for approval prior to each monthly pay estimate.

Assemble approved information in a binder and turn over to the Government upon acceptance of the Work. The construction warranty period will begin on the date of Project acceptance and continue for the full product warranty period.

Warranty Manager and Warranty Technician shall schedule and meet with U.S. Coast Guard representatives 9 months from the date of acceptance. The visit is unrelated to warranty call outs, and must be met whether or not the Warranty Manager or Technician has already been on-site. During this on-site visit the Contracting Officer, Base Warranty Representative and the Warranty Manager and Warranty Technician will discuss warranty performance over the previous months. The discussion will include a Site walk, and thorough inspection.

The warranty management plan shall include, but is not limited to the following:

a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.

b. Furnish with each warranty the name, address, and telephone number of each of the guarantor's representatives nearest to the Project location.

c. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.

d. A list for each warranted equipment, item, feature of construction or system indicating:

(1) Name of item.

(2) Model and serial numbers.

(3) Location where installed.

(4) Name and phone numbers of manufacturers or suppliers.

(5) Names, addresses and telephone numbers of sources of spare parts.

(6) Warranties and terms of warranty. Include one-year overall warranty of construction, including the starting date of warranty of construction. Items which have extended warranties must be indicated with separate warranty expiration dates.

(7) Cross-reference to warranty certificates as applicable.

(8) Starting point and duration of warranty period.

(9) Summary of maintenance procedures required to continue the warranty in force.

(10) Cross-reference to specific pertinent Operation and Maintenance manuals.

(11) Organization, names and phone numbers of persons to call for warranty service.

(12) Typical response time and repair time expected for various warranted equipment.

e. The plans for attendance at the 9 month post-construction warranty inspections conducted by the Government.

f. Procedure and status of tagging of all equipment covered by extended warranties.

g. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

1.5.3 Performance Bond

The Performance Bond must remain effective throughout the construction period .

a. In the event the Contractor fails to commence and diligently pursue any construction Warranty Work required, the Contracting Officer will have the Work performed by others, and after completion of the Work, will charge the remaining construction warranty funds of expenses incurred by the Government while performing the Work, including, but not limited to administrative expenses.

b. In the event sufficient funds are not available to cover the construction Warranty Work performed by the Government at the Contractor's expense, the Contracting Officer will have the right to recoup expenses from the bonding company.

c. Following oral or written notification of required Construction Warranty Repair Work, respond in a timely manner. Written verification will follow oral instructions. Failure to respond will be cause for the Contracting Officer to proceed against the Contractor.

1.5.4 Pre-Warranty Conference

Prior to Contract completion, and at a time designated by the Contracting Officer, meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section. Communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty will be established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue Construction Warranty Work action on behalf of the Contractor. This point of contact will be located within the local service area of the warranted construction, be continuously available, and be responsive to Government inquiry on Warranty Work action and status. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this provision.

1.5.5 Contractor's Response to Construction Warranty Service Requirements

All equipment labor and materials required to perform the warranty phase of this Contract is part of the base bid. The Schedule of Prices shall include the cost of the warranty phase of this Contract. This is not an

addition to the Contract award price, it is a portion of the award price that must be allocated to cover the warranty phase of this Contract.

The Warranty Manager must respond by phone to coordinate response within the following times:

Emergency warranty call: By phone: 24 hour or less.

Routine: 48 hours or less

The Warranty Technician must respond on-site within the following time periods to restore or stabilize the situation:

Emergency warranty call: 24 hours or less. (An emergency may be downgraded to Routine, after initial response and stabilization.)

Routine: 48 hours or less

Permanent repairs: To be determined

Responsibility for Repairs: It is the responsibility of the Warranty Manager or approved representative to identify the problem and arrange for repairs, including any additional damage related to the problem.

Determination of warranty call authenticity shall be withheld until an on-site response has occurred. The Contractor shall pursue the resolution of the warranty call. The time frames specified above must be complied with and will not be extended pending resolution of whether or not a problem is a warranty issue.

The Warranty Manager shall notify the Contracting Officer immediately upon preliminary determination that the problem reported is not a legitimate warranty call. The Contracting Officer will make the final determination in all cases as to the legitimacy of the warranty call. The Contractor may submit a request for equitable adjustment under FAR 52.243-4, Changes.

Maintain and submit monthly a warranty call log to the Contracting Officer. Identify date, time, nature and resolution of warranty call.

If the Contractor fails to correct latent defects or major discrepancies in workmanship or products during the warranty period, the Government maintains the right to adjust the Contract price accordingly, or to correct the Work by a third party and recover costs for such activities from the Contractor's performance bond.

1.5.6 Warranty List

In addition to the submittals listed above, submit a complete Warranty List within 14 calendar days of completion of the Punch List by the Contracting Officer.

The Warranty List shall include the approved names for Warranty Manager and Technicians with address, phone and FAX numbers, and the start date/end date of the warranty period.

Provide two copies of the list to the Contracting Officer on 8-1/2 x 11 inch paper, heavily laminated.

PART 2 PRODUCTS

2.1 GOVERNMENT FURNISHED MATERIALS (GFM)

The Government will provide an optical disc (CD or DVD) at the preconstruction conference that contains the following:

a. One set of "as-designed" electronic CAD files in the specified software and format revised to reflect all amendments and the final Contract PDF Drawings. The CAD files are provided to enable preparation of as-built or As-Constructed Drawings. If discrepancies exist between the CAD files and the Contract PDF Drawings, correct the CAD files to show the Contract PDF Drawings.

PART 3 EXECUTION

3.1 AS-BUILT DRAWINGS

The As-Built Drawings shall be a record of the construction as installed and completed by the Contractor. The Contractor shall markup two sets of full size Drawings to show the as-built conditions. These as-built marked prints shall be kept current and available at all times at the Project Site. One copy shall be maintained by, and remain in the possession of, the Contractor. The second copy shall be maintained by the Contractor, but shall remain in the possession of the Contracting Officer.

All changes from the Contract plans, which are made in the Work, or additional information which might be uncovered in the course of construction, shall be accurately and neatly recorded as they occur, by means of details and notes. No construction Work shall be concealed until it has been inspected, approved and recorded.

The as-built marked prints shall be submitted for joint inspection for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of the monthly pay estimate. Two sets of up-to-date as-built marked prints shall be delivered to the Contracting Officer at the time of final inspection for his review, approval, and retention.

3.1.1 Markup Guidelines

Make comments and markup the Drawings complete without reference to letters, memos, or materials that are not part of the As-Built Drawing. Show what was changed, how it was changed, where item(s) were relocated and change related details. These working as-built markup prints must be neat, legible and accurate as follows:

a. Use base colors of red, green, and blue. Color code for changes as follows:

(1) Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes.

(2) Deletions (Red) - Over-strike deleted graphic items (lines), lettering in notes and leaders.

(3) Additions (Green) - Added items, lettering in notes and leaders.

b. Provide a legend if colors other than the "base" colors of red, green, and blue are used.

c. Add and denote any additional equipment or material facilities, service lines, incorporated under As-Built Revisions if not already shown in legend.

d. Use frequent written explanations on markup Drawings to describe changes. Do not totally rely on graphic means to convey the revision.

e. Use legible lettering and precise and clear digital values when marking prints. Clarify ambiguities concerning the nature and application of change involved.

f. Wherever a revision is made, also make changes to related section views, details, legend, profiles, plans and elevation views, schedules, notes and call out designations, and mark accordingly to avoid conflicting data on all other sheets.

g. For deletions, cross out all features, data and captions that relate to that revision.

h. For changes on small-scale Drawings and in restricted areas, provide large-scale inserts, with leaders to the applicable location.

i. Indicate one of the following when attaching a print or sketch to a markup print:

1) An entire Drawing has been added to the Contract Drawings.

2) The Contract Drawing(s) has been updated to show the change.

3) Provided for reference only to further detail the initial design.

j. Incorporate all Shop and Fabrication Drawings into the markup Drawings.

3.1.2 As-Built Drawings Content

The As-Built Drawings shall show the following information, but not be limited thereto:

a. All of the information shown on the Contract set of Drawings.

b. A record of all deviations, modifications or changes from those Drawings, however minor, which were incorporated in the Work.

c. All additional Work not appearing on the Contract Drawings.

d. The location and dimensions of any changes to the Site, within the building, or within the structure.

e. Changes in details of design or additional information obtained from submissions specified to be prepared and/or furnished by the Contractor; including but not limited to Shop Drawings, fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

f. The topography, invert elevations and grades of drainage installed or affected as part of the Project construction.

g. All changes, Revisions, and/or Modifications which result from the

final inspection.

h. Where Contract Drawings or Specifications present options, show only the option selected for construction on the working as-built markup Drawings.

i. If borrow material for this Project is from sources on Government property, or if Government property is used as a spoil area, furnish a contour map of the final borrow pit/spoil area elevations.

j. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, fire sprinkler, and irrigation systems.

3.2 RECORD DRAWINGS

The Contractor shall prepare final Record Drawings after the completion of each definable feature of Work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the Project). Transfer the changes from the approved working As-Built Markup Drawings to the original electronic CAD Drawing files. Modify the As-Built CAD Drawing files to correctly show the features of the Project as-built by bringing the working CAD Drawing set into agreement with approved working As-Built Markup Drawings, and adding such additional Drawings as may be necessary.

Jointly review the working As-Built Markup Drawings with printouts from working As-Built CAD Drawing PDF files for accuracy and completeness. Monthly review of working As-Built CAD Drawing PDF file printouts must cover all sheets revised since the previous review. These PDF Drawing files are part of the permanent records of this Project. Any Drawings damaged or lost must be satisfactorily replaced at no expense to the Government.

3.2.1 Final Record Drawing Package

The Contractor shall provide 2 copies of complete final Record Drawings on 2 separate CDs or DVDs 30 days after date of final acceptance.

Each optical disc, read-only memory (ROM), shall include one set of ANSI D size PDF and CAD files of the final Record Drawings.

The package must be complete in all details and identical in form and function to the Contract Drawing files supplied by the Government.

The Contracting Officer will review and either approve or provide comments regarding conformance to As-Built Conditions/Drawings and/or compliance with specified CAD standards. Contractor shall make all necessary revisions and resubmit to the Contracting Officer within 14 calendar days of issuance of commnets.

Within 14 calendar days of approval of Final Record Drawing Files, the Contractor shall submit two complete sets of ANSI D size prints of the Final Record Drawing Set.

3.3 OPERATION AND MAINTENANCE MANUALS

Provide Project operation and maintenance manuals as specified in Section 01 78 23 OPERATION AND MAINTENANCE MANUALS DATA. Provide four electronic copies of the Operation and Maintenance Manual files. Submit

to the Contracting Officer for approval within 30 calendar days of the Beneficial Occupancy Date (BOD). Update and resubmit files for final approval at BOD.

3.4 CLEANUP

Provide final cleaning in accordance with ASTM E1971. Leave premises "broom clean." Use only nonhazardous cleaning materials, including natural cleaning materials, in the final cleanup. 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. Clean 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. Dispose, recycle, salvage, and return construction and demolition waste from Project in accordance with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

-- End of Section --

SECTION 01 78 23

OPERATION AND MAINTENANCE DATA
11/21

PART 1 GENERAL

1.1 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-10 Operation and Maintenance Data

O&M Manual

1.2 OPERATION AND MAINTENANCE DATA

Submit Operation and Maintenance (O&M) Data for the provided equipment, product, or system, defining the importance of system interactions, troubleshooting, and long-term preventive operation and maintenance. Compile, prepare, and aggregate O&M data to include clarifying and updating to as-built conditions. Organize and present information in sufficient detail to clearly explain O&M requirements. Include an index preceding each submittal. Submit in accordance with this Section and Section 01 33 00 SUBMITTAL PROCEDURES.

1.2.1 Package Quality

Documents must be fully legible. Operation and Maintenance data must be consistent with the manufacturer's standard brochures, schematics, printed instructions, general operating procedures, and safety precautions.

Inapplicable information on accessories not provided or unrelated manufacturer's equipment shall be removed or crossed out if on the same page as applicable information. All non-English language sections shall be removed unless on the same page as English sections.

1.2.2 Package Content

Provide data package content in accordance with paragraph SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES.

1.2.3 Changes to Submittals

Provide manufacturer-originated changes or revisions to submitted data if a component of an item is so affected subsequent to acceptance of the O&M Data. Submit changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data within 30 calendar days of the notification of this change requirement.

1.3 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

The following are detailed descriptions of the data package items listed in paragraph SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES.

1.3.1 Operating Instructions

Make reference to nameplate data, valve numbers, manufacturers' literature, schematics, Drawings, and other parts of the manual to help personnel understand the procedures. Provide specific instructions, procedures, and illustrations for all phases of operation for the installed model and features of each system.

1.3.1.1 Narrative

Describe the function of each system or piece of equipment. Provide the manufacturer's printed description. Include equipment model number, characteristics (e.g., BTU, GPM, head, horsepower, voltage, etc.), and equipment nameplate symbol.

1.3.1.2 Safety Precautions and Hazards

List personnel hazards and equipment or product safety precautions for operating conditions. List all residual hazards identified in the Activity Hazard Analysis provided under Section 01 35 26 GOVERNMENT SAFETY REQUIREMENTS. Provide recommended safeguards for each identified hazard.

1.3.2 Preventive Maintenance

Describe routine maintenance to be performed and the maintenance interval in daily or weekly time frames to the maximum extent possible. Develop a maintenance schedule reflecting these intervals based on manufacturer's written data.

Provide the following information for preventive and scheduled maintenance to minimize repairs for the installed model and features of each system. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.

1.3.2.1 Preventive Maintenance Plan, Schedule, and Procedures

Provide manufacturer's schedule for routine preventive maintenance, inspections, condition monitoring (predictive tests), and adjustments required to ensure proper and economical operation and to minimize repairs. Provide instructions stating when the systems should be retested. Include manufacturer's projection of preventive maintenance work-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft. For periodic calibrations, provide manufacturer's specified frequency and procedures for each separate operation.

Define the anticipated time required to perform each test (work-hours), necessary test apparatus, number of personnel identified by responsibility, and a testing validation procedure permitting the record operation capability requirements within the schedule. Provide a remarks column for the testing validation procedure referencing operating limits of time, pressure, temperature, volume, voltage, current, acceleration, velocity, alignment, calibration, adjustments, cleaning, or special system notes. Delineate procedures for preventive maintenance, inspection, adjustment, lubrication and cleaning necessary to minimize repairs.

1.3.2.2 Cleaning Recommendations

Provide environmentally preferable cleaning recommendations in accordance

with ASTM E1971.

1.3.3 Repair

Provide manufacturer's recommended procedures and instructions for correcting problems and making repairs for the installed model and features of each system. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.

1.3.3.1 Drawings, Diagrams, and Charts

Provide a complete and accurate depiction of the actual job specific Work.

1.3.3.2 Repair Procedures

Provide instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards.

Repair procedures must inform operators how to check out, troubleshoot, repair, and replace components of the system.

1.3.3.3 Removal and Replacement Instructions

Provide step-by-step procedures and a list of required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Use a combination of text and illustrations.

1.3.3.4 Spare Parts and Supply Lists

Provide lists of spare parts and supplies, including part numbers and sources of supply, required for repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead-time to obtain.

For all pieces of equipment provide a complete list of manufacturer's recommended spare parts as well as special tools or instruments needed to perform routine maintenance. Special tools required shall be provided with the equipment at time of installation.

1.3.4 Appendices

Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

1.3.4.1 Product Submittal Data

Provide a copy of SD-03 Product Data submittals documented with the required approval.

1.3.4.2 Manufacturer's Instructions

Provide a copy of SD-08 Manufacturer's Instructions submittals documented with the required approval.

1.3.4.3 O&M Submittal Data

Provide a copy of SD-10 Operation and Maintenance Data submittals documented with the required approval.

1.3.4.4 Parts Identification

Provide identification and coverage for the parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, Drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing must show the index, reference, or key number that will cross-reference the illustrated part to the listed part. Group the parts shown in the listings by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice. Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog.

1.3.4.5 Warranty Information

List and explain the various warranties and clearly identify the servicing and technical precautions prescribed by the manufacturers' or Contract Documents in order to keep warranties in force. Include warranty information for primary componentsof the system. Provide copies of warranties required by Section 01 78 00 CLOSEOUT SUBMITTALS.

Consolidate manufacturer's warranty data for all applicable equipment or components into a reference table. The reference table should be inserted as a separate section in the front of the O&M manual deliverable, or provided as an appendix to the O&M deliverable. This reference table should be organized and sorted by Uniformat II Level 2 systems and should include the following fields for each component or piece of equipment:

a. Equipment/Component Description

b. Building Name

c. Location Number

d. Quantity or Size + UOM (Unit of Measure)

e. Installation Date

f. Manufacturer

g. Model Number

h. Serial Number

i. Manufacturer Warranty end date

j. Equipment Tag Number

1.3.4.6 Extended Warranty Information

In addition to the above requirements for warranty data, list all warranties for products, equipment, components, and sub-components whose duration exceeds one year. 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 the specific operation and maintenance procedures that must be performed to keep the warranty valid. Provide copies of warranties required by Section 01 78 00 CLOSEOUT SUBMITTALS.

1.3.4.7 Testing Equipment and Special Tool Information

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components. Provide final set points.

1.3.4.8 Field Test Reports

Provide a copy of Field Test Reports (SD-06) submittals documented with the required approval.

1.3.4.9 Contractor Information

Provide a list that includes the name, address, and telephone number of the General Contractor and each subcontractor who installed the product or equipment, or system. For each item, also provide the name address and telephone number of the manufacturers' representative and service organization that can provide replacements most convenient to the Project Site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

1.4 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES

The information required in each data package follows:

1.4.1 Data Package 1

a. Narrative

b. Safety precautions and hazards

c. Cleaning recommendations

d. Preventive maintenance plan, schedule, and procedures

e. Repair Procedures

f. Product Submittal data

g. Warranty information

h. Extended warranty information

i. Contractor information

j. Spare parts and supply list

1.5 OPERATION AND MAINTENANCE MANUALS

Assemble data packages into electronic Operation and Maintenance Manuals.

Prepared text and instructions shall be written in modern English and prepared at the appropriate grade level reading ease for the intended O&M audience. Compile the manual using the equipment manufacturers' data along with supplemental instructions and Drawings prepared by or on behalf of the Contractor.

1.5.1 O&M Manual

Submit final electronic copies of the O&M Manual 7 days prior to inspection.

The Contracting Officer will either approve the O&M Manual or provide comments to the Contractor for additional corrections. If corrections are necessary, repeat the O&M submittal process as outlined above. After final approval, the Contractor shall provide one electronic and two hard copies of the approved, Final O&M Manuals.

1.5.2 Organization

1.5.2.1 Hard Copies

Arrange the manual so there is a separate chapter for each Uniformat II level. Then subdivide each chapter into sections that provide the required information for each system or piece of equipment.

Manuals shall be in vinyl-covered three ring binders sized for 8.5 inches by 11 inches pages. Provide a title page and table of contents. For each chapter provide hard paper tab dividers with chapter title or equipment name printed on the faces and tabs. Drawings included in the manual shall be trifolded 11 inches by 17 inches pages. On the spine and front cover of the manual, print, in lines that are horizontal when the manual is upright on a shelf:

Operation and Maintenance Manual
Building Name
Title of Project
Revision and Date

1.5.2.2 Electronic Copies

Assemble each manual into a composite electronically indexed file using the most current version of Adobe Acrobat or similar software capable of producing PDF file format. Provide compact disks (CD) or data digital versatile disk (DVD) as appropriate, so that each one contains operation, maintenance and record files, Project record documents, and training videos as required. Include a complete electronically linked operation and maintenance directory.

PDF files, including cut sheets and Drawings, shall provide fully searchable text. Include a separate disk, organized in the same structure as the primary O&M disk, with (wherever possible) the native file formats (.doc, .dwg, etc.) used to prepare the PDF's included in the O&M Manual. Preventive Maintenance and other Tables shall be prepared using a standard format such as Microsoft Word or Excel, and shall not be scanned from manufacturer data.

Bookmark Product and Drawing Information documents using Uniformat II levels, and arrange submittals using the Project Specification Section numbers as a structure. Use Uniformat II numbers along with descriptive bookmarked titles that explain the content of the information that is being bookmarked.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 02 41 00

DEMOLITION
11/21

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP A10.6	(2006) Safety & Health Program Requirements for Demolition Operations - American National Standard for Construction and Demolition Operations

CITY OF KODIAK (KODIAK)

KODIAK SCSSD	City of Kodiak Standard Construction Specifications & Standard Details - 2012 Edition

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

40 CFR 61	National Emission Standards for Hazardous Air Pollutants

1.2 PROJECT DESCRIPTION

1.2.1 Site Demolition Work Plan

The procedures for the accomplishment of demolition Work shall provide for safe conduct of the Work, including procedures and methods to provide necessary supports, lateral bracing and shoring, careful removal and disposition of materials to be salvaged, protection of property which is to remain undisturbed, coordination with other Work in progress, location of Contractor provided waste disposal site, and timely disconnection of utility services. The procedures shall include a description of the methods and equipment to be used for each operation and the sequence of operations.

1.2.2 Definitions

1.2.2.1 Demolition

Demolition is the process of wrecking or taking out any load-supporting structural member of a facility together with any related handling and disposal operations. Demolition also includes the process of scarifying, removing, abandoning, or taking out existing roadways, parking areas, utilities, and associated structures and foundations together with any related handling and disposal operations.

1.2.2.2 Demolition Plan

Demolition Plan is the planned steps and processes for managing demolition activities and identifying the required sequencing activities and disposal mechanisms. Prepare a Demolition Plan for approval before Work is started. Submit proposed procedures and methods for demolition, abandoning utilities, and removal procedures for structures and existing roads. Include in the plan procedures for careful removal and disposition of materials specified to be salvaged, coordination with other Work in progress, a disconnection schedule of utility services, a detailed description of methods and equipment to be used for each operation and of the sequence of operations. Append tracking forms for all removed materials indicating type, quantities, condition, destination, and end use. Coordinate with Waste Management Plan prior to Work beginning.

1.2.3 General Requirements

Do not begin demolition or deconstruction until authorization is received from the Contracting Officer. Demolition shall conform to the KODIAK SCSSD City of Kodiak Standard Construction Specification, Latest Edition, and to the Contract Documents. Where there is a conflict, the requirements listed in the Contract Documents shall supersede the City of Kodiak Standard Construction Specification. The Contractor shall seek such an approval only after the Contracting Officer has approved the Demolition Plan procedures. Remove rubbish and debris from the Project Site; do not allow accumulations on site, near buildings, airfields, and other operational areas. The Work includes demolition and abandoning utilities, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from Government property daily, unless otherwise directed or approved by the Contracting Officer. Store materials that cannot be removed daily in areas specified by the Contracting Officer. In the interest of occupational safety and health, perform the Work in accordance with 01 35 26GOVERNMENTAL SAFETY REQUIREMENTS and KODIAK SCSSD, CITY OF KODIAK, AK, Section 207, REMOVAL OF STRUCTURES AND OBSTRUCTIONS, AND SECTION 612, ABANDON PIPELINE IN PLACE Standards.

1.3 ITEMS TO REMAIN IN PLACE

Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government. Repair or replace damaged items as approved by the Contracting Officer. Coordinate the Work of this Section with all other Work indicated. Construct and maintain shoring, bracing, and supports as required until all the permanent connections are completed, inspected and reviewed by the Contracting Officer. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, deconstruction, or demolition Work performed under this Contract. No Work shall overload structural elements or new Work.Provide new supports and reinforcement for existing construction weakened by demolition, deconstruction, or removal Work. Repairs, reinforcement, or structural replacement require approval by the Contracting Officer prior to performing such Work.

1.3.1 Existing Construction Limits and Protection

Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide temporary shoring and bracing for support as required to prevent settlement or other

movement. Provide protective measures to control accumulation and migration of dust and dirt in all Work Areas.

Remove snow, dust, dirt, and debris from Work Areas daily.

1.3.2 Utility Service

Maintain existing utilities indicated to stay in service and protect against damage during demolition and deconstruction operations.

1.3.3 Utilities and Temporary Services

Protect communication, electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Floors, roofs, walls, columns, pilasters, and other structural components must remain standing without additional bracing, shoring, or lateral support until demolished or deconstructed, unless directed otherwise by the Contracting Officer. Ensure that no elements determined to be unstable are left unsupported and place and secure bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, deconstruction, or demolition Work performed under this Contract.

1.4 BURNING

The use of burning at the Project Site for the disposal of refuse and debris will not be permitted.

1.5 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Demolition Plan

Existing Conditions

1.6 QUALITY CONTROL

Submit timely notification of demolition; deconstruction and renovation Work to Federal, State, regional, and local authorities in accordance with 40 CFR 61, Subpart M. In such cases notify the Regional Office of the United States Environmental Protection Agency (USEPA) and/or State's environmental protection agency and the Contracting Officer in writing prior to the commencement of Work in accordance with 40 CFR 61, Subpart M. Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," conform to the safety requirements contained in ASSP A10.6. Comply with the Environmental Protection Agency requirements specified. Use of explosives will not be permitted.

1.6.1 Dust and Debris Control

Prevent the spread of dust and debris to occupied portions of the U.S. Coast Guard Installation and on airfield pavements. Avoid the creation of a nuisance or hazards in the surrounding area. Do not use water if it

results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum and dust the Work Area daily. Sweep pavements as often as necessary to control the spread of debris that may result in foreign object damage potential to aircraft.

1.7 PROTECTION

1.7.1 Traffic Control Signs

a. Where pedestrian and driver, and/or aircraft safety is endangered in the area of removal Work, use traffic barricades with flashing lights. Anchor barricades in a manner to prevent displacement by wind, vehicle impact for vehicles moving at 25 mph (Design Speed 35 mph). Notify the Contracting Officer prior to beginning such Work.

1.7.2 Protection of Personnel

Before, during and after the demolition Work continuously evaluate the condition of the road and utilities being demolished and take immediate action to protect all personnel working in and around the Project Site.

1.8 FOREIGN OBJECT DAMAGE (FOD)

Aircraft and aircraft engines are subject to FOD from debris and waste material lying on airfield pavements. Remove all such materials that may appear on operational aircraft pavements due to the Contractor's operations. If necessary, the Contracting Officer may require the Contractor to install a temporary barricade at the Contractor's expense to control the spread of FOD potential debris. The barricade shall include a fence covered with a fabric designed to stop the spread of debris. Anchor the fence and fabric to prevent displacement by winds or jet/prop blasts. Remove barricade when no longer required.

1.9 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair or replace items to be relocated which are damaged by the Contractor with new undamaged items as approved by the Contracting Officer.

1.10 EXISTING CONDITIONS

Before beginning any demolition or deconstruction Work existing conditions shall be field verified. Survey the Site and examine the Drawings and Specifications to determine the extent of the Work. Record existing conditions in the presence of the Contracting Officer showing the condition of structures and other facilities adjacent to areas of alteration or removal. Photographs sized 4 inch will be acceptable as a record of existing conditions. Include in the record the elevation of the top of foundation walls, finish floor elevations, possible conflicting electrical conduits, plumbing lines, alarms systems, the location and extent of existing cracks and other damage and description of surface conditions that exist prior to before starting Work. It is the Contractor's responsibility to verify and document all required outages which will be required during the course of Work, and to note these outages on the record document. Submit survey of existing conditions results to the Contracting Officer prior to beginning of any Work including but not limited to any temporary construction.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 GENERAL

Remove and dispose of/or salvage all fences, signs, manhole structures, pavement materials, excess soils, pipe and other utilities and any other manmade obstructions that are not permitted to remain in accordance with the KODIAK SCSSD, City of Kodiak Standard Construction Specification, Latest Edition, and the.

3.2 DISPOSITION OF MATERIAL

3.2.1 Title to Materials

All materials and equipment removed and not reused or salvaged, shall become the property of the Contractor and shall be removed from Government property. Title to materials resulting from demolition and deconstruction, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition, deconstruction, and removal procedures, and authorization by the Contracting Officer to begin demolition and deconstruction. The Government will not be responsible for the condition or loss of, or damage to, such property after Contract award. Showing for sale or selling materials and equipment on-site is prohibited.

3.2.2 Unsalvageable and Non-Recyclable Material

Unsalvageable and non-recyclable material shall be the property of the Contractor and shall be removed from the Project Site and disposed of.

3.3 CLEANUP

Remove debris and rubbish. Remove and transport the debris in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

3.4 DISPOSAL OF REMOVED MATERIALS

3.4.1 Regulation of Removed Materials

Dispose of debris, rubbish, scrap, and other nonsalvageable materials resulting from removal operations with all applicable federal, state and local regulations as Contractually specified. Storage of removed materials on the Project Site is prohibited.

3.4.2 Burning on Government Property

Burning of materials removed from demolished and deconstructed structures will not be permitted on Government property.

3.4.3 Removal from Government Property

Transport waste materials from Government property for legal disposal. Comply with local ordinances and laws regardless of the location of disposal.

-- End of Section --

SECTION 02 85 00

MOLD REMEDIATION
11/21

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION (AIHA)

AIHA IMOM08-679	(2008) Recognition, Evaluation, and Control of Indoor Mold

AMERICAN SOCIETY OF SAFETY PROFESSIONALS (ASSP)

ASSP Z9.2	(2018) Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems

INSTITUTE OF INSPECTION, CLEANING, AND RESTORATION CERTIFICATION (IICRC)

ANSI/IICRC S520	(2015) Standard and Reference Guide for Professional Mold Remediation
IICRC S100	(2015) S100 Standard and R100 Reference Guide for Professional Cleaning of Textile Floor Covering
IICRC S500	(2015) Standard and Reference Guide for Professional Water Damage Restoration

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

29 CFR 1910.134	Respiratory Protection
29 CFR 1926.59	Hazard Communication
29 CFR 1926.62	Lead
29 CFR 1926.1101	Asbestos
29 CFR 1926.1126	Chromium
29 CFR 1926.1127	Cadmium

UNDERWRITERS LABORATORIES (UL)

UL 586	(2009; Reprint Dec 2017) UL Standard for Safety High-Efficiency Particulate, Air Filter Units

1.2 DEFINITIONS

1.2.1 AIHA

American Industrial Hygiene Association.

1.2.2 AIHA EMLAP

American Industrial Hygiene Association's Environmental Microbiology Laboratory Accreditation Program

1.2.3 AFU

Air filtration unit with High Efficiency particulate air (HEPA) filtered vacuum and exhaust ventilation equipment with a filter system capable of collecting and retaining microbial contamination ASSP Z9.2. Filters must retain 99.97 percent of particles 0.000012 inches or larger as indicated in UL 586.

1.2.4 Categories of Water

Category 1 Water: Water that originates from a sanitary water source and does not pose a substantial risk from dermal, ingestion, or inhalation exposure. IICRC S500

Category 2 Water: Water that contains significant contamination and has the potential to cause discomfort or sickness if contacted or consumed by humans. Can contain potentially unsafe levels of microorganisms or nutrients for microorganisms as well as other organic or inorganic matter. IICRC S500

Category 3 Water: Water that is grossly contaminated and can cause significant adverse reactions to humans if contacted or consumed. IICRC S500

1.2.5 Certified Industrial Hygienist (CIH)

An individual that has been certified by the American Board of Industrial Hygiene (ABIH), with professional qualifications and experience as required for an industrial hygienist, as presented in the definition of "Industrial Hygienist."

1.2.6 Complete Interior Building Demolition (Complete Gut)

Interior finishes of the building have been removed to expose basic structural elements.

1.2.7 Containment

Physical separation and engineering controls required to prevent contamination of undamaged materials and occupied areas. The level of containment varies depending on the extent of the contamination.

1.2.7.1 Source Containment

Use when the contaminated surface area is less than 10 square feet, in both residential and non-residential buildings. At a minimum, source containment will include the following (ANSI/IICRC S520):

a. Isolation of Areas of Work. Install polyethylene barriers to isolate the areas or material to be demolished / remediated from non-remediation areas.

b. Floor protection. Maintain protection for finished floors through all construction activities.

c. HEPA vacuum to control dust created during the demolition. Hold HEPA vac intake at source of dust.

1.2.7.2 Limited Containment

Use when contaminated surface area is between 10 square feet and 100 square feet per room in both residential and non-residential buildings. At a minimum, limited containment includes the following (ANSI/IICRC S520):

a. Containment. For residential buildings, a containment includes the entire room where Work is being performed. The containment does not extend past the extents of the room unless there are instances of contamination extending from one room to the next. For non-residential buildings, the containment includes the area to be remediated, plus enough additional area to allow for all equipment and Work activities.

b. Isolation of Areas of Work. Install polyethylene barriers to isolate the areas to be demolished / remediated.

c. Floor protection. Maintain protection for finished floors through all construction activities.

d. Air Filtration / Pressurization Control. Install AFUs with HEPA filters in the containment. Configure the AFUs with splitters / diverters to allow some of the air to recirculate within the containment. Discharge the remainder of the air directly to the outside to maintain an overall negative pressure in the containment of 0.02 inch water column minimum to 0.04 inch water column maximum relative to the outside and other adjacent spaces not undergoing remediation(AIHA IMOM08-679). AFUs must filter a minimum of four air changes per hour and a maximum of six air changes per hour (ANSI/IICRC S520).

e. Protection for all items remaining in the containment. Protective devices must prevent physical damage (e.g., scratches and dents) and must provide a positive seal to prevent dust from settling in or on the items.

g. Containment Entrance. Install a triple-flap poly "door" to be used during demolition to provide a good separation between containment and occupied areas of the house / building.

h. HVAC System. Seal off all supply and return vents. HVAC may need to be shut down to ensure proper seal of the vents.

1.2.7.3 Full Containment

Use when contaminated surface area is greater than 100 square feet in both residential and nonresidential buildings. At a minimum, full containment includes the following(ANSI/IICRC S520):

a. Containment. For residential buildings, a containment includes the entire room where Work is being performed. The containment does not extend past the extents of the room unless there are instances of contamination extending from one room to the next. For non-residential buildings, the containment includes the area to be remediated, plus enough additional area to allow for all equipment and Work activities.

b. Isolation of Areas of Work. Construct polyethylene barriers to isolate the areas to be demolished / remediated.

c. Floor protection. Maintain protection for finished floors through all construction activities.

d. Air Filtration / Pressurization Control. Install AFUs with HEPA filters in the containment. Configure the AFUs with splitters / diverters to allow some of the air to recirculate within the containment. Discharge the remainder of the air directly to the outside to maintain an overall negative pressure in the containment of 0.02 inch water column minimum to 0.04 inch water column maximum relative to the outside and other adjacent spaces not undergoing remediation (AIHA IMOM08-679). AFUs must filter a minimum of four air changes per hour and a maximum of six air changes per hour (ANSI/IICRC S520).

e. Protection for all items remaining in the containment. Protective devices must prevent physical damage (e.g., scratches and dents) and must provide a positive seal to prevent dust from settling in or on the items.

f. Decontamination. Construct a decontamination airlock for entry into and exit from the Area of Work. HEPA vacuum the sealed bags of contaminated debris within the airlock. When possible, locate the decontamination airlock so that the sealed bags can be passed directly from the airlock to the outside, through a door or window.

g. Containment Entrance. Install a triple-flap poly "door" at the entrance to the airlock, and between the airlock and the Area of Work during demolition to provide a good separation between containment and occupied areas of the house / building.

h. HVAC System. Seal off all supply and return vents. HVAC may need to be shut down to ensure proper seal of the vents.

1.2.7.4 Unoccupied Building Containment

Use when a building is unoccupied and large amounts of mold growth are present throughout the building:

a. Containment. The containment consists of the entire building. Install AFUs with HEPA filters in the building. Configure the AFUs to recirculate within the active remediation area. AFUs must filter a minimum of four air changes per hour and a maximum of six air changes per hour based on the size of the area undergoing active remediation (ANSI/IICRC S520).

b. Isolation of Areas of Work. Install polyethylene barriers to isolate remediation areas from non-remediation areas. AFU discharge may be used to positively pressurize non-remediation areas from areas

undergoing remediation to prevent the movement of spores into "clean" areas.

c. Floor Protection. Maintain protection for finished floors through all construction activities.

d. Protection for all items remaining in the containment. Protective devices must prevent physical damage (e.g., scratches and dents) and must provide a positive seal to prevent dust from settling in or on the items.

e. Decontamination. Construct a decontamination airlock for entry into and exit from the building.

f. Containment Entrance. Install a triple-flap poly "door" to be used during demolition to provide a good separation between containment and non-remediation areas of the house / building.

g. HVAC System. Seal off all supply and return vents. HVAC may need to be shut down to ensure proper seal of the vents.

1.2.7.5 Cleaning Containment

For items being salvaged, set up a temporary containment structure to clean items removed from the containment. At a minimum, the cleaning area must contain:

a. Two chambers. Construct walls with polyethylene. Clean the items in the first chamber. Store the clean items in the second chamber.

b. Air Filtration / Pressurization Control Cleaning Chamber. Install AFUs with HEPA filters in the cleaning chamber. Configure the AFUs with splitters / diverters to allow some of the air to recirculate within the containment. Discharge the remainder of the air directly to the outside to maintain an overall negative pressure in the containment of 0.02 inch water column minimum to 0.04 inch water column (maximum) relative to the storage chamber (AIHA IMOM08-679).

c. Air Filtration, Storage Chamber. Install AFUs with HEPA filters in the storage chamber. Configure the AFUs to allow air to recirculate within the chamber. AFUs must provide air filtration at a rate of between four and six air changes per hour (ANSI/IICRC S520).

d. Containment Entrance. Install a triple-flap poly "door" at the entrance to the cleaning chamber, between the cleaning and storage chambers, and at the exit of the storage chamber to provide a good separation between the chambers.

1.2.8 Decontamination Unit (Airlock)

An enclosed area adjacent to, and connected to, a regulated Area of Work. It consists of various rooms that are used for the decontamination of workers, equipment, and materials.

1.2.9 Dehumidifier

Mechanism or machine to remove moisture from the air.

1.2.10 Detergent

A cleaning agent. The term refers to a prepared compound that may include surfactants, builders, dry solvents, softeners, etc, but does not include true soap.

1.2.11 Disinfectants or Biocide Sanitizing Solutions

One of three groups of antimicrobials registered by the EPA for public health uses. The EPA considers an antimicrobial to be a disinfectant when it destroys or irreversibly inactivates infectious or other undesirable organisms, but not necessarily their spores.

1.2.12 EPA

U.S. Environmental Protection Agency.

1.2.13 Fungal Growth Structures

Portions of fungi indicating active fungal growth is present on a surface. These include spores, conidiophores, hyphae, hyphal fragments, and mycelium.

1.2.14 Fungicidal Agents, (EPA)

An EPA registered fungicide that inhibits the spread and growth of mold with the ability to withstand moist and humid conditions.

1.2.15 HEPA Filter

A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97 percent of all particulate larger than 0.000012 inches.

1.2.16 HVAC

Heating, Ventilating, and Air Conditioning (System).

1.2.17 Industrial Hygienist (IH)

An individual designated and provided by the Contractor that is a professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational and indoor air quality hazards. Education must include a minimum 12 semester hours or quarter hour equivalent of chemistry and 18 additional semester hours or quarter hour equivalent of courses in any combination of chemistry, physics, engineering, health physics, environmental health, biostatistics, biology, physiology, toxicology, epidemiology, or industrial hygiene. The Industrial Hygienist must be a CIH or under the supervision of a Certified Industrial Hygienist.

1.2.18 Microbial Remediation Supervisor

Individual responsible for the execution of the Microbial Remediation Work as defined by the Scope of Work. This individual must have documented training in microbial remediation and have at least three years experience in Microbial Remediation Work. Remediation Contractor's on-site supervisor must have one of the following certifications: Council-Certified Microbial Remediator (CMR), or Council-Certified Microbial Remediation Supervisor (CMRS) as certified by the American

Council for Accredited Certification, or Applied Microbial Remediation Specialist (AMRS), Institute of Inspection, Cleaning, and Restoration Certification (IICRC) or Contracting Officer approved equivalent.

1.2.19 Non-Porous Material

A material that does not absorb nor is easily penetrated by liquids, especially water. Generally, non-porous materials have a permeable factor of less than one. Some examples are metal, glass, plastic, ceramic tile.

1.2.20 Occupied Spaces (Areas)

The phrase "occupied space" within this Specification Section refers to spaces that are occupied by unprotected non-remediation personnel while Work is in progress. It also refers to areas adjacent to Areas of Work that are not currently undergoing remediation.

1.2.21 Personal Protective Equipment (PPE)

Any material or device worn to protect a worker from exposure to, or contact with, any harmful material or force. PPE must be cleaned or disposed of prior to removal from the Remediation Area of Work.

1.2.22 Poly

Polyethylene sheet with a minimum thickness of 6 mils.

1.2.23 Porous Material

Permeable materials having the physical properties that allow liquids or gasses to pass through. These materials include but are not limited to the following: gypsum wall board, insulation, wallpaper, ceiling material, carpet, padding, paper goods (e.g., cardboard boxes, loose paper, books), stuffed furniture, wicker, fabrics.

1.2.24 Pressure Differential Measuring Instrument

Device used to measure the relative pressure difference between the Area of Work/containment and areas outside the Area of Work. For mold remediation, the device must measure accurately in the 0 to 0.04 inch of water range.

1.2.25 Semi-porous Material

A material that can absorb liquids if exposed over long periods of time. These materials include but are not limited to wood, concrete, linoleum, vinyl wall covering, wooden or hardboard furniture, plaster.

1.2.26 Ventilation System Mold Remediator Qualifications (VSMR)

An individual certified by the North American Duct Cleaning Association (NADCA) to clean HVAC systems.

1.2.27 Area of Work

The area where remediation operations are actively performed and controlled to prevent the spread of dust / spores and entry by unauthorized personnel. As prescribed in this Specification Section, and Area of Work is the space, group of spaces, or the building, as defined by

the Microbial Assessment Survey.

1.3 REQUIREMENTS

1.3.1 Description of Work

a. **ALL window openings must include surface cleaning for the perimeter of all each window opening head, jambs and sill subframing and portions of interior wallboard 12 inches minimum beyond the window opening. HEPA vacuum all surfaces and wipe down with a detergent solution. Do not use surface cleaning where mold growth penetrates wallboard substrate. Thoroughly dry the cleaned areas and paint to lock down any residual spores. The price of this work must be included in Contract Item Numbers 001, 1001 and 1002.**

b. Provide Mold Remediation Work including the handling and control of mold contaminated materials and the resultant procedures and equipment required to protect workers, the environment and occupants of the building or area, or both, from contact with mold products and spores. The Work also includes the disposal of any mold contaminated materials generated by the Work. The Mold Removal Work includes the **demolition and removal** of 100 square feet of the interior side of exterior wall to include gyspum wallboard, vapor barrier and batt assembly located at the perimeter of window openings including heads, sills and/or jambs. Provide containment and engineering control techniques as outlined in this Specification Section. All mold contaminated material removal Work must be supervised by a microbial remediation supervisor as specified herein. **The price of this work must be included in Contract Item Number 002.**

c. The following Microbial Remediation Specifications apply to the cleaning / removal and disposal of fungally-contaminated porous, semi-porous and non-porous surfaces within various types of structures. The level of containment and requirements for cleaning and remediation of materials will depend on the condition of the space and materials being remediated.

d. Immediately after Project Contract Award, prepare a preliminary visual assessment report using the standard microbial assessment form (Appendix A to this Specification Section) to document the differences in the pre-remediation condition of the Areas of Work. Coordinate inspection with the Contracting Officer. Submit this written pre-remediation condition report to the Contracting Officer for approval and instructions to proceed.

e. After approval of the preliminary visual assessment report and having instructions from the Contracting Officer to proceed, prepare a microbial remediation plan for approval by the Contractor's Certified Industrial Hygienist. Include an assessment of the risk for people occupying areas adjoining the remediation area while Remediation Work is occurring in the microbial remediation plan. Upon the Contractor's CIH approval of the plan, submit the plan to the Contracting Officer for approval.

f. The Contractor's CIH or IH must monitor the Project Site on a daily basis while Remediation Work is in progress, identifying Work and Work Practices that are not in compliance with the approved microbial remediation plan, and performing all inspections required by this Specification Section. The Contracting Officer may require the

removal of any individual for non-compliance with quality requirements specified in the Contract.

g. This Specification Section includes the protocol regarding proper disposal of the removed building material components from within the Project Site.

h. Use proper cleaning procedures, engineering controls, and apply best management practices to remove microbial growth and spore fallout from all surfaces and building materials to minimize the further release of microbial spores. Address semi-porous and nonporous surfaces within the facility in each cleaning phase of the Project. Damp wipe and HEPA vacuum all surfaces, at a minimum. Remove and dispose of porous building materials that are supporting microbial growth.

1.4 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Preliminary Visual Assessment Report

Microbial Remediation Plan

Certified Industrial Hygienist (CIH)/Industrial Hygienist (IH) Qualifications

SD-03 Product Data

Disinfectants or Biocide Sanitizing Solutions

Fungicidal Agents, (EPA)

Safety Data Sheets (SDS) for All Materials

Dehumidifiers

Air Filtration Units

SD-06 Test Reports

IH Daily Reports

SD-11 Closeout Submittals

Submittals at Completion of Remediation Work

1.4.1 Preconstruction Submittals

Within 10 days of Project Contract Award and prior to the start of the Work, submit to the Contracting Officer an electronic copy of the following items for review and permanent file.

1.4.1.1 Preliminary Visual Assessment Report

A written report to document the pre-remediation condition of the Area(s) of Work compared to the contract requirement.

1.4.1.2 Microbial Remediation Plan

Submit a job-specific, abbreviated plan Approved by the Contractor's CIH to the Contracting Officer for final approval prior to start of Work. The plan must address the following items at a minimum:

a. Description of materials to be remediated, providing location and quantities (map if available), and methods to be used for remediation.

b. Products: Disinfectants, detergents, biocides, sanitizing solutions, and fungicidal agents, (EPA).

c. Containment procedures to include description and locations of engineering controls and decontamination unit to include entry and exit procedures (provide sketch of floor plan showing location of containment barriers and decontamination units). Include locations of AFUs and AFU discharges to the outside.

d. Description of personal protective equipment to be used during the remediation.

e. Construction barricades and barriers in occupied areas.

f. HVAC Shut down and start-up procedures.

g. HVAC Evaluation and remediation procedures.

h. Moisture and relative humidity control procedures and equipment.

i. Packaging and disposal procedures.

j. Safety Precautions to include lockout / tag-out, fall protection, confined space entry procedures, and fire protection.

k. Description of the method to be employed to control cross contamination of areas not in the Area of Work. Include a risk assessment related to the suitability of people to occupy areas adjoining the remediation area while remediation activities are ongoing.

l. IH Quality Control procedures to include visual inspection.

m. Procedures to control, abate, and dispose of Asbestos Containing Materials (ACM), Presumed Asbestos Containing Materials (PACM) and Lead Based Paint (LBP) coincident with microbial remediation. ACM, PACM, and LBP must be identified before Work begins; Identify the presence, location, and quantity of ACM,PACM, and LBP therein pursuant to paragraphs (g),(k)(1) of 29 CFR 1926.1101 and for lead 29 CFR 1926.62.

1.4.1.3 Respiratory Protection Program

Maintain written copy of Contractor's Respiratory Protection program.

1.4.1.4 Worker Records

Maintain the following documents for all workers, including supervisory personnel. If new workers are added to the crew, maintain the same

documentation for them.

Employee Instruction and Release Form: Maintain documentation showing that each employee has been instructed on the following items:

a. Use and fit of respirators (for employees entering and working in the containment).

b. Protective clothing.

c. Protective measures.

d. Safety and Emergency Egress Procedures.

e. Site specific fall protection plan and training.

f. Microbial remediation hazards and practices including engineering controls and isolation. Training should include "hands on" training for microbial remediation supervisors.

g. Workers' release forms stating the potential hazards involved with the Scope of Work.

h. Worker Training Certification: Maintain training certificates for each employee indicating that the employee has received training at the appropriate level for the Work prescribed in the description of Work.

1.4.1.5 Certified Industrial Hygienist (CIH)/Industrial Hygienist (IH) Qualifications

Submit the name, address, and telephone number of the Certified Industrial Hygienist (CIH) and Industrial Hygienist (IH). Provide copies of board certificates, resume to document field experience, and evidence that the CIH and IH have successfully completed training in microbial investigation and remediation.

1.4.1.6 Microbial Remediation Supervisor Qualifications

Onsite supervisor must have one of the following certifications: Certified Microbial Remediator (CMR), Certified Microbial Remediation Supervisor (CMRS), or Applied Microbial Remediation Specialist (AMRS). Maintain copies of supervisory training certificates.

1.4.2 Product Data

Within 10 days of Project Contract Award, submit product data for items identified for use in Microbial Remediation Plan.

1.4.3 IH Daily Reports

Prepare a written IH Daily Report for each day that Microbial Remediation Work is being accomplished. Submit the IH Daily Reports at completion of remediation work. The IH Daily Report at a minimum must include measurements of differential pressure and temperature and relative humidity in Areas of Work, and detail any non-compliance issues observed.

1.4.4 Submittals at Completion of Remediation Work

Within 14 days of completion, provide the following information:

a. Daily Project Logs.

b. IH Daily Reports.

c. Photographic Logs.

d. Contractor's Industrial Hygienist Report certifying the microbial remediation is complete.

1.5 RECORD KEEPING

A Daily Project Log must form a permanent record of the Project. Secure and maintain these logs and any other required documentation as part of the permanent Project File.

1.5.1 Daily Project Log

The Microbial Remediation Supervisor must maintain a Daily Project Log. The Daily Project Log must be used each day of the Project to document the following information.

a. Date.

b. Name of Microbial Remediation Supervisor.

c. Name of Industrial Hygienist monitoring Area of Work.

d. Number of workers onsite.

e. Equipment utilized.

f. Brief description of daily work activities.

g. Listing of any non-compliance noted, emergencies, stop Work orders (with detailed explanation), and descriptions of any other significant events.

PART 2 PRODUCTS

2.1 DISINFECTANTS, BIOCIDES, SANITIZING SOLUTIONS AND FUNGICIDAL AGENTS, (EPA)

Must be EPA Registered for the use detailed in the Microbial Remediation Plan and used in accordance with the manufacturer's specifications. Provide SDS sheets to the Contracting Officer for any chemicals that will be used during the performance of the Work for approval.

2.2 HAZARD COMMUNICATION

Adhere to all parts of 29 CFR 1926.59 and provide the Contracting Officer with a copy of the Safety Data Sheets (SDS) for all materials brought to the Project Site.

PART 3 EXECUTION

3.1 EQUIPMENT

Provide manufacturer's certificate of compliance for all equipment used to contain the microbial contamination.

3.1.1 Respirators

Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services. Provide personnel engaged in set-up, pre-cleaning, cleanup, handling, and removal of contaminated materials with the appropriate respiratory protection as specified in 29 CFR 1910.134. Microbial remediation plan must consider Table 17.1 in AIHA IMOM08-679 "Recognition, Evaluation, and Control of Indoor Mold", which lists the minimum levels of respiratory protection based on the activity and size of the remediated area.

3.1.2 Protective Clothing

Provide all workers with protective clothing as appropriate for the Work being accomplished, as required by the Microbial Remediation Plan.

3.1.3 Warning Signs and Labels

Provide warning signs pat all approaches to the Areas of Work IICRC S500. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Warning signs may be in the form of continuous plastic tape. The warning signs must have black characters on a yellow background.

WARNING
DO NOT ENTER
MICROBIAL REMEDIATION WORK IN PROGRESS

Alternate wording for the warning signs will be approved by the Contracting Officer.

3.1.4 Dehumidifiers

Install and use dehumidifiers as needed during the remediation to maintain relative humidity below 60 percent in the Area of Work. Drain the condensate water to a permanent drain, or empty as needed to prevent water overflowing from the dehumidifiers.

3.1.5 Air Filtration Units (AFU)

Install and use AFUs with HEPA filters, and manufacturer specified pre-filters, as part of the exhaust ventilation system to develop and maintain the specified desired air pressure differential inside the enclosed Area of Work relative to the outside areas. Acquire and pay for any licenses needed for use of any equipment, including but not limited to, air pressure differential systems and air filtration systems.

a. Replace HEPA filters and pre-filters for AFUs as required to maintain pressurization performance requirements during demolition and cleaning. Do not reuse filters. Bag used filters at a minimum in clear 6 mil polyethylene bags within the containment and disposed as

contaminated waste.

b. Discharge air from any AFUs located in the Area of Work containment to the outside environment when creating a negative pressure containment to create a negative pressure relative to the outside and adjacent Areas of Work not undergoing active remediation of 0.02 inch H2O to 0.04 inch H20 AIHA IMOM08-679. Discharge air in excess of that required for creating the proper negative pressure to the Area of Work. The AFUs must provide four to six air changes per hour in the Area of Work (ANSI/IICRC S520). Under no circumstances may air from AFUs discharge to an occupied area. Coordinate location of window sashes or doors required for discharge openings with the Contracting Officer. Exhaust discharge openings may be constructed of plywood, and the seals around such opening must be airtight.

c. Seal all exhaust and intake openings in AFUs with one layer of 6 mil polyethylene sheeting when not in use.

3.1.6 Vacuum Cleaners Equipped with HEPA Filters

Provide vacuum cleaners equipped with HEPA filters designed for continuous operation in order to complete the Work in a timely and efficient manner.

a. Provide nozzle attachments as required to adequately remove all dust. As a minimum, nozzle attachments must include crevice and extended bristle brush nozzles. Any vacuum that is not equipped with a HEPA filter must not be used at anytime.

b. Provide sufficient vacuum cleaners equipped with HEPA filters designed for continuous operation in the Area of Work during microbial remediation inside the containment area.

c. Provide additional vacuum cleaners equipped with HEPA filters in the enclosed Area of Work during remediation or cleaning work as required by the size (area) of the containment and to maintain timely progress of the Work.

3.2 GENERAL REQUIREMENTS

3.2.1 Pre-Microbial Remediation Work Conference

Meet with the Contracting Officer prior to beginning Work to discuss in detail the Microbial Remediation Plan, including work procedures and safety precautions. Once approved by the Contracting Officer, the plan will be enforced as if a part of this Specification Section. Any variances to the Specification as a result of the plan must be specifically identified to allow for free discussion and approved by the Contracting Officer in writing prior to starting Work. Before Work in areas with Asbestos Containing Materials (ACM), Presumed Asbestos Containing Materials (PACM) and Lead begins, identify the presence, location, and quantity of ACM, PACM and Lead. Ensure proper notification of regulatory authorities. Consult with Contracting Officer to obtain facility ACM / LBP surveys. Mitigate any disturbance of painted/coated surfaces in accordance with 29 CFR 1926.62, 29 CFR 1926.1126 and 29 CFR 1926.1127.

3.2.2 Containment Entry / Exit Procedure

Ensure that each worker and authorized visitor follows entry and exit

procedures detailed in the Microbial Remediation Plan.

3.3 REMOVAL PROCEDURES

3.3.1 Protection of Existing Work Areas

Perform Work in a manner to minimize the damage or contamination to areas outside or directly adjacent to the Area of Work. Inspect areas inside and outside proposed Areas of Work to identify existing damage and notify Contracting Officer prior to start of Work.

Where materials outside Area of Work are damaged or contaminated as a result of the Contractor's Work efforts as verified by the Contracting Officer using visual inspection or sample analysis, it must be restored to its original condition or decontaminated by the Contractor at no expense to the Government as deemed appropriate by the Contracting officer. Should adjacent or outside areas become contaminated as a result of the Contractor's Work efforts, stop Work immediately. Clean the newly contaminated areas at no additional expense to the Government. The Work may proceed at the discretion of the Contracting Officer once the area has been verified by visual inspection as restored.

3.3.2 Remediation of Fungally Contaminated Building Materials

The removal of contaminated materials must follow in general the listed sequence of Work. The Contractor may make changes to improve Work flow with the approval of the Contracting Officer.

a. Provide level of containment and PPE required by the Microbial Remediation Plan.

b. Disable all HVAC units and exhaust fans in the area to be remediated. Cover and seal all supply vents, return vents, and air handling units in the Project Area(s) using two layers of 6 mil poly.

c. Protect materials to remain in Area of Work. Where possible, clean all materials to be salvaged in place to prevent possible cross-contamination created by moving materials through non-remediation areas.

d. Remove undamaged items and materials to be cleaned and salvaged from the Area of Work. Store materials in an area with relative humidity maintained below 60 percent and where temperatures will not damage the material. Notify Contracting Officer of existing damage to items prior to removal.

e. Set up containments, including protection of materials remaining within the containment and AFUs. Notify Contracting Officer that the area is prepared for remediation activities.

f. Pre-demolition inspection by the Contracting Officer.

g. Demolition and removal / cleaning of contaminated materials.

h. Post-remediation inspection by the Contracting Officer.

i. Perform final cleaning in the containment.

j. Clean carpet in the containment if salvageable.

k. Clearance inspection by the Contracting Officer.

l. Duct and HVAC cleaning, if necessary.

m. Deconstruction of containment, removal of AFUs.

n. Return previously items that were removed and cleaned to the occupied area.

3.3.3 Remediation Procedures

3.3.3.1 Remediation of Non-Porous Materials

Method of remediating non-porous items:

a. HEPA vacuum all surfaces.

b. Damp wipe all surfaces using clean water or a detergent solution.

c. Ensure all cleaned surfaces are dried thoroughly.

3.3.3.2 Semi-Porous Materials (Unfinished Wood)

Use this method for remediating unfinished wood-based items, including wood and wood framing in wall cavities:

a. Cleaning

(1) HEPA vacuum all surfaces.

(2) Scrub surfaces with a brush and detergent to remove mold.

(3) Ensure all cleaned surfaces are dried thoroughly.

(4) HEPA vacuum all surfaces to remove dust.

(5) Repair finishes as required to match original.

b. Removal

Where unfinished wood product has been structurally damaged, remove and replace with an equivalent product. This includes wall studs and sheathing, such as OSB used in flooring, wall, or roof construction. Lightly mist mold contaminated material before removal.

3.3.3.3 Semi-Porous Materials

Use this method for surface cleaning semi-porous materials such as concrete, vinyl wall covering, linoleum, leather furniture, and finished wood products:

a. HEPA vacuum all surfaces.

b. Damp wipe surfaces using clean water or a detergent solution. Avoid over-wetting the material. Ensure all materials are dried thoroughly

3.3.3.4 Porous Materials

a. Carpet

(1) Removal: Remove carpet that has remained wet for 48-hours or longer (AIHA IMOM08-679). If carpet has dried out, lightly mist before removal.

(2) Cleaning (for carpet that has been wet for less than 48-hours) AIHA IMOM08-679: Use a dry absorbent compound cleaning method as designated by IICRC S100. This method uses an absorbent compound to dissolve, suspend and absorb carpet soils. It does not add moisture back into the carpet. Ensure carpet is dried thoroughly after cleaning

b. Gypsum Wallboard (GWB)

(1) Removal: Remove Gypsum Wallboard that has remained wet for 48-hours or longer (AIHA IMOM08-679), or has visible mold growth. Where removal of GWB exposes insulation, remove the insulation. Lightly mist all contaminated materials before removal.

(2) Surface Cleaning: Where GWB has a small amount of surface mold growth and the GWB is structurally sound, a surface cleaning method may be used with the permission of the Contracting Officer. HEPA vacuum all surfaces and wipe down with a detergent solution. Do not use surface cleaning where mold growth penetrates wallboard substrate. Thoroughly dry the cleaned areas and paint to lock down any residual spores.

c. Ceiling Tile

(1) Removal: Remove ceiling tile that has remained wet for 48-hours or longer, or has visible mold growth (AIHA IMOM08-679). If ceiling tile has dried out lightly mist before removal.

d. Paper/Electronic Media and Sensitive Equipment

Classified and Controlled Unclassified Information whether it is paper, electronic media or equipment must be properly safeguarded / secured until it is properly destroyed in accordance with SECNAV M-5510.36 and it cannot be discarded without utilizing the proper destruction methods. Contractor personnel cannot be granted access to classified information or Controlled Unclassified Information until they have met the security requirements stated in the paragraph SECURITY REQUIREMENTS.

(1) Removal: Only papers or documents that are unclassified and do not contain controlled unclassified information can be discarded in the trash. Classified and Controlled Unclassified information must be destroyed by appropriately cleared Military, Government, or Contractor personnel using an approved DOD destruction method for that specific level of information. Discard paper materials that have remained wet for 48-hours or longer, or that have visible mold growth. Paper materials that have been wet for less than 48-hours may be allowed to dry if approved by the Contracting Officer.

(2) Containment: Where paper materials, such as personnel records

must be retained, the following containment methods may be used with the permission of the Contracting Officer. The method of containment for paper products shall be:

(a) Thoroughly dry the paper material. Classified and Controlled Unclassified Information must be safeguarded at all times in a GSA approved security container, restricted area, vault, or under the direct physical control of appropriately cleared personnel.

(b) Where routine access to the material is required, a copy shall be made. Contractor personnel shall not reproduce copies of classified information or controlled unclassified information without the prior written approval of the Contracting Officer and the Government Agency Security department with responsibility for the Area of Work. If approval is obtained, only appropriately cleared Contractor personnel shall be authorized to reproduce the information and they must use only DOD authorized reproduction equipment.

(c) When not in use, the classified and controlled unclassified information must be secured in an approved GSA security container, restricted area, or vault. Limit access to the container to only appropriately cleared personnel. Implement an access procedure involving opening the container in a secure area with provision for capturing mold spores and respiratory protection for workers opening the container for these materials. Store the container in an area where the relative humidity is maintained below 60 percent to prevent further mold growth.

3.4 DETAILED SEQUENCE OF WORK FOR MOLD REMOVAL UNDER CONTAINMENT

3.4.1 Preparation for Remediation Work

a. Provide level of containment and PPE required for the remediation based on the Microbial Remediation Plan.

b. Disable all HVAC units and exhaust fans in the area to be remediated.

c. Remove undamaged materials from the Area of Work if they are to be salvaged but cannot be cleaned in place. Store materials in an area with relative humidity maintained below 60 percent and where temperatures will not damage the material. Notify Contracting Officer of existing damage to items prior to removal. Clean materials using procedures detailed in Remediation Procedures.

d. Remove supply diffusers, return grilles and exhaust grilles. Clean diffusers and grilles using procedures detailed in Remediation Procedures.

e. Construct containment barriers. Existing walls can be used as a portion of the containment barriers if existing openings in walls (such as doors, wall openings, vents) are sealed using 6 mil polyethylene.

f. Install the AFUs and dehumidifiers.

g. Seal supply, return, and exhaust openings with 6 mil polyethylene sheeting and protect intakes to air handling units. Air handling units are to remain off.

h. Install all equipment needed for removal Work in the containment area to minimize egress during demolition.

i. The Contracting Officer will inspect the containment to verify that the containment is properly constructed and the containment area has an overall negative pressure of 0.02 to 0.04 inch water column AIHA IMOM08-679 relative to the outside and adjacent Areas of Work not undergoing active remediation, prior to beginning demolition Work.

3.4.2 Demolition

a. Remove mold contaminated materials to be discarded, such as paper, and furniture. Double bag material in 6 mil poly bags. Seal poly bags using duct tape inside the containment. HEPA vacuum bags before removing them from the containment or airlock. When possible, pass the bags directly from the containment or airlock to the outside. Transport bags to a dumpster. Do not leave the bags at the building / house.

b. Lightly mist all contaminated materials that are being discarded to minimize generation of airborne mold spores during demolition/removal.

c. Remove contaminated gypsum wallboard (GWB) at the preliminary limits of demolition specified in the Microbial Remediation Plan. Inspect back side of removed GWB. If mold is observed on the back side of the GWB, report this condition to the Contracting Officer. After obtaining Contracting Officer approval, continue removing GWB until no mold is observed. If hidden mold is discovered that will extend past the extents of the containment, stop Work immediately and reconstruct the containment to extend past the suspected contamination. Re-evaluate level of containment and PPE. Continue to operate AFUs during reconfiguring of containment.

d. Remove drywall by cutting in pieces as large as possible to minimize aerosolization of fungal spores. Drywall screws can either be backed out during removal or later during cleanup.

e. Use dust collection attachments on all power tools, such as sanders, saws, to capture dust created when using the tools. Outlet of dust collector should discharge into inlet of AFU.

f. Remove fiberglass insulation behind removed gypsum board.

g. If wood studs are contaminated, HEPA vacuum all surfaces, scrub them with a brush and detergent to remove mold. After scrubbing studs, HEPA vacuum again to remove any remaining dust. Replace wood studs with damage severe enough to reduce the structural capacity of the member. Prior to removal of any structural member consult with the Contracting Officer. Structural members shall not be removed without prior written approval from the Contracting Officer.

h. Clean all metal framing with a dilute detergent solution. Clean metal framing with light rust using steel wool and coat with a rust inhibiting paint. Replace metal framing with rust damage severe enough to reduce the structural capacity of the member. Prior to removal of any structural material, consult with the Contracting Officer. Structural members shall not be removed without prior written approval from the Contracting Officer.

i. Remove contaminated carpet scheduled for removal.

j. Place removed gypsum board, insulation, carpet and remaining debris in two layers of 6 mil poly bags. Seal poly bags using duct tape inside the containment. HEPA vacuum bags before removing them from the containment or airlock. When possible pass the bags directly from the containment or airlock to the outside. Transport bags to a dumpster. Do not leave the bags at the building / house.

k. Remediation workers must HEPA vacuum their PPE, then remove their PPE within the airlock chamber. Discard disposable coverall suits into a 6 mil poly bag.

3.4.3 Post-Demolition Inspection

a. The Contracting Officer will inspect the containment area to verify that all contaminated materials have been removed.

b. Allow a minimum of 12-hours after completion of removal Work, with AFUs operating, for airborne dust in the containment to settle or be removed by the AFUs.

3.4.4 Cleaning after Demolition, and Cleaning of Settled Spores from Porous / Non-Porous Materials

a. Continue to operate AFUs during cleaning.

b. Clean exposed surfaces.

(1) HEPA vacuum all surfaces.

(2) Damp wipe all non-porous exposed surfaces including polyethylene sheets used to protect materials, external surfaces of ductwork, studs, and floors with clean rag and clean potable water or detergent solution.

(3) Remove poly sheeting inside the containment.

(4) HEPA vacuum all surfaces protected by poly sheeting.

(5) Damp wipe non-porous surfaces protected by poly sheeting with clean water or a detergent solution.

(6) Clean carpet using procedures previously specified in paragraph POROUS MATERIALS above.

c. Final clearance inspection will be conducted by Contracting Officer. Clearance inspections will be performed using the procedures detailed in Post-Remediation Inspection. If areas fail final clearance inspections, additional corrective actions taken by the Contractor will be at no additional cost to the Government. Maintain containments in place until spaces are inspected and accepted by the Government as being fully remediated. The Government will determine whether additional cleaning is required by the Contractor and whether the clearance process will be repeated.

3.5 FIRE PROTECTION

Provide portable fire extinguishers within the containment area and outside the decontamination unit. Fire extinguishers Must be rated for the class of fire hazards in the Area of Work and must be sized for coverage of the areas within the containment. At a minimum, one 10 pound ABC fire extinguisher for every 1,000 square feet must be strategically placed around the containment. Personnel must be trained for emergency egress and the use of fire extinguishers. Notify fire officials of Work activities as required. IICRC S500

3.6 CONSTRUCTION BARRIERS

a. Provide interior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities or Work to remain. Shoring, bracing or support will be necessary when structural wood studs or metal framing need to be removed and replaced when they cannot be cleaned.

b. Do not disturb microbial-contaminated building materials while isolating Areas of Work. This precaution prevents the release of microbial spores.

c. Workers must wear respirators and other PPE as outlined in the microbial remediation plan when installing critical barriers where microbial contaminated surfaces (walls or surfaces with visible settled dusts) are likely to be disturbed. Operate an AFU if disturbance is likely during setup.

d. Monitor the air pressure differential across Area of Work containments. The monitoring system must be in place before the start of remedial activities. Verification by the Industrial Hygienist is required prior to the start of the microbial remediation.

3.7 QUALITY ASSURANCE / QUALITY CONTROL REQUIREMENTS

3.7.1 Contractor Qualifications

Work must be performed by a qualified Remediation Contractor. Contractor must carry insurance that specifically covers mold remediation.

a. Remediation Contractor's on-site supervisor must have one of the following certifications: Certified Microbial Remediator (CMR), Certified Microbial Remediation Supervisor (CMRS), or Applied Microbial Remediation Specialist (AMRS). Qualified supervisor must be onsite whenever active remediation is being performed. Set-up activities may be performed without supervisor present; qualified supervisor must review set-up prior to start of Work.

b. Mold remediation workers must be given training in PPE and mold remediation activities as required for their particular job. Microbial remediation plan must provide details of worker training.

3.7.2 Waste Management and Removal

Keep the Project Site and Areas of Work free from accumulations of dust, waste materials, or rubbish caused by Contractor operations and free from any flammable materials or other sources of fire hazard. Remove all waste materials and rubbish from and about the Project Site in strict accordance

with the Specifications and applicable codes and regulations.

3.7.3 Post-Remediation Inspection

Clean up all debris and dust in interior spaces outside the Area of Work resulting from the Contractor's Remediation Work.

After all visible accumulations of material and debris are removed from the containment, provide the Contracting Officer a 24-hour notice for a final clearance visual inspection. The Contracting Officer and Contractor's Industrial Hygienist must conduct a thorough visual inspection of the Area of Work. If during this inspection any visible debris or microbial contamination are observed, the Contractor must re-clean the Area of Work without additional cost to the Government.

3.7.3.1 Clearance

a. Clearance Criteria

Clearance will be based on visual assessment (all visible mold removed, all visible dust removed, based on a "white glove" test) by Contracting Officer. "White glove" test will consist of wiping the surface with a clean cloth of color suitable to reveal expected type of dust. For most surfaces, a white cloth is suitable. For GWB dust, a dark cloth may be more appropriate.

b. Failed remediation areas will be recleaned at no additional cost to the Government and the AFUs kept in operation another 12-hours, followed by another visual assessment. Subsequent failures will follow the same routine until a pass condition is secured.

3.8 CLEAN-UP AND DISPOSAL

3.8.1 Disposal of Material

Dispose of contaminated bagged waste materials removed during this remediation as general construction debris. Follow all applicable local, State, and Federal requirements for the disposal of this material.

3.8.2 Material Packaging

Place waste, as waste is removed, into a disposal container promptly. Disposal containers must consist of at a minimum, two layers of clear 6 mil polyethylene bags. Tape bags in a gooseneck fashion to form an airtight seal and label appropriately. Bag waste from vacuums equipped with HEPA filters in 6 mil polyethylene bags.

3.8.3 Building Exit (Waste Disposal)

HEPA vacuum and damp wipe bags of contaminated waste material prior to removal from the building. When possible pass the bags directly from the containment or airlock to the outside. Transport bags to a dumpster.

3.8.4 Hazardous Material

Should the Contractor encounter any hazardous materials, notify the Contracting Officer immediately for direction.

3.9 APPENDICES

Appendix A - Microbial Assessment Visual Field Report Form

TO DOWNLOAD THIS FORM, SEE UFGS FORMS, GRAPHICS AND TABLES
Go to
http://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs/forms-graphics-tables

Section 02 85 00 Appendix A

Microbial Assessment Visual Field Report Form

Building Number: _____ **Date:** _____

Building Type: _____ **Assessment Team:** _____

Floor/Level _____ _____

_____ _____

Room Number	Category	Air Sample(1)	Floor	Wall 1	Wall 2	Wall 3	Wall 4	Ceiling	Closet	HVAC	Notes

Mold Categories

I: 1-10 square feet Mold impacted material
II: 10-30 square feet Mold impacted material
III: 30-100 square feet Mold impacted material
IV: 100 square feet Mold impacted material or greater

3
Room Wall Numbering
2 will be clock-wise **4**
starting with
Door wall as **1**

Inspector's Signature: _____

Notes: 1. Air Samples denotes clearance samples to be taken {Yes} or { No}
Air Samples are not applicable if not required in Section 02 85 00.00 20

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Rpr Windows Guest House & Rec Ctr

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)		(q)	(r)
		01 14 00	SD-01 Preconstruction Submittals																
			List of Contract Personnel	1.6.1.1															
			Vehicle List	1.7.3															
			Notices To Contracting Officer	1.4.1															
		01 20 00	SD-01 Preconstruction Submittals																
			Schedule of Prices	1.4															
		01 30 00	SD-01 Preconstruction Submittals																
			Superintendent's Resume	1.4.2															
			SD-06 Test Reports																
			Daily Reports	1.5.1															
			SD-07 Certificates																
			Weekly Payroll Reports	1.5.2															
		01 32 16	SD-01 Preconstruction Submittals																
			Baseline Project Schedule	1.4															
			SD-07 Certificates																
			Monthly Updates	1.6															
		01 33 00	SD-01 Preconstruction Submittals																
			Submittal Register	1.10															
		01 35 26	SD-01 Preconstruction Submittals																
			Accident Prevention Plan (APP)	1.8															
			SD-06 Test Reports																
			Notifications and Reports	1.13															
			Accident Reports	1.13.2															
			LHE Inspection Reports	1.13.3.1															
			SD-07 Certificates																

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		01 35 26	Contractor Safety Self-Evaluation	1.5														
			Checklist															
			Crane Operators/Riggers	1.7.1.6														
			Standard Lift Plan	1.8.2.1														
			Activity Hazard Analysis (AHA)	1.9														
			Certificate of Compliance	1.13.3.2														
		01 45 00	SD-01 Preconstruction Submittals															
			Contractor Quality Control Plan	3.2														
			SD-06 Test Reports															
			Verification Statement	3.9.2														
			SD-07 Certificates															
			Laboratory Accreditation And	3.5.3														
			Validation															
			SD-11 Closeout Submittals															
			Field Testing Log	3.5.3														
		01 50 00	SD-01 Preconstruction Submittals															
			Construction Site Plan	1.4														
			Traffic Control Plan	3.6.1														
			SD-03 Product Data															
			Backflow Preventers	2.6														
			SD-06 Test Reports															
			Backflow Preventer Tests	2.6														
			SD-07 Certificates															
			Backflow Tester Certification	1.5.1														
			Backflow Preventers Certificate	1.5														
		01 57 19	SD-01 Preconstruction Submittals															

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		01 57 19	Waste Management Plan	1.7.5														
			Environmental Protection Plan	1.9														
			Erosion And Sediment Control	1.9.2.7.1														
			Plan (ESCP)															
			SD-07 Certificates															
			ADEC Contaminated Sites	1.7.4														
			Program Transport, Treatment,															
			And Disposal Approval Form For															
			Contaminated Media															
			SD-11 Closeout Submittals															
			Waste Determination	3.8.1														
			Documentation															
			Disposal Documentation for	3.8.3.6														
			Hazardous and Regulated Waste															
			Project Solid Waste Disposal	3.8.2.1														
			Documentation Report															
			Integrated Cultural Resource	1.7.7														
			Management Plan Closeout															
			Report															
			Environmental Records Binder	1.10														
		01 78 00	SD-03 Product Data															
			Warranty Management Plan	1.5.2														
			SD-08 Manufacturer’s Instructions															
			Instructions	1.5.2														
			SD-10 Operation and Maintenance															
			Data															

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		01 78 00	Operation and Maintenance	3.3															
			Manuals																
			SD-11 Closeout Submittals																
			Warranty List	1.5.6															
			As-Built Drawings	3.1															
			Record Drawings	3.2															
		01 78 23	SD-10 Operation and Maintenance																
			Data																
			O&M Manual	1.5.1															
		02 41 00	SD-01 Preconstruction Submittals																
			Demolition Plan	1.2.2.2															
			Existing Conditions	1.10															
		02 85 00	SD-01 Preconstruction Submittals																
			Preliminary Visual Assessment	1.4.1.1															
			Report																
			Microbial Remediation Plan	1.4.1.2															
			Certified Industrial Hygienist	1.4.1.5															
			(CIH)/Industrial Hygienist (IH)																
			Qualifications																
			SD-03 Product Data																
			Disinfectants or Biocide	1.2.11															
			Sanitizing Solutions																
			Fungicidal Agents, (EPA)	1.2.14															
			Safety Data Sheets (SDS) for All	2.2															
			Materials																
			Dehumidifiers	3.1.4															

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		02 85 00	Air Filtration Units	3.1.5															
			SD-06 Test Reports																
			IH Daily Reports	1.4.3															
			SD-11 Closeout Submittals																
			Submittals at Completion of	1.4.4															
			Remediation Work																
		06 10 00	SD-02 Shop Drawings																
			Nailing Strips	2.2.1															
			SD-06 Test Reports																
			Preservative-treated	1.4.3															
			SD-07 Certificates																
			Preservative Treatment	1.7															
		06 20 00	SD-02 Shop Drawings																
			Detail Drawings Indicating All	1.3															
			Wood Assemblies																
			SD-03 Product Data																
			Wood Products	2.1															
			Treated Wood Products	1.4															
			Fascias and Trim	2.2															
		07 13 53	SD-03 Product Data																
			Manufacturer's Standard Details	1.3															
			Elastomeric Waterproofing Sheet	2.1															
			Materials																
			Primers, Adhesives, and Mastics	1.4.1															
			SD-06 Test Reports																

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		07 13 53	Elastomeric Waterproofing Sheet	2.1															
			Materials																
			Field Quality Control	3.6															
			SD-07 Certificates																
			Elastomeric Waterproofing Sheet	2.1															
			Materials																
			Primers, Adhesives, and Mastics	1.4.1															
			Special Warranties	1.7															
			Special Warranties	1.7															
			Certificates Of Compliance																
			SD-08 Manufacturer's Instructions																
			Primers, Adhesives, and Mastics	1.4.1															
			SD-11 Closeout Submittals																
			Certificates Of Compliance																
		07 21 16	SD-03 Product Data																
			Blanket Insulation	2.1															
			Sill Sealer Insulation	2.2															
			Vapor Retarder	2.3															
			Pressure Sensitive Tape	2.4															
			Accessories	2.5															
			SD-08 Manufacturer's Instructions																
			Insulation	3.2.1															
		07 60 00	SD-02 Shop Drawings																
			Base Flashing	3.1.10															
			Counterflashing	3.1.11															
			Drip Edges	3.1.12															

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		07 60 00	SD-04 Samples															
			Finish Samples	1.4.2														
		07 92 00	SD-03 Product Data															
			Sealants	2.1														
			Primers	2.2														
			Bond Breakers	2.3														
			Backstops	2.4														
			Field Adhesion Test	3.1														
		08 44 00	SD-02 Shop Drawings															
			Glazed Curtain Wall System	1.5														
			Installation Drawings	1.5														
			SD-03 Product Data															
			Glazed Curtain Wall System	1.5														
			Metals For Fabrication	2.2														
			Metal Accessories	2.4.1														
			Curtain-Wall Framing Members	2.5														
			Warranties	1.7.1														
			SD-05 Design Data															
			Pigmented Organic Coating	2.4.5														
			Seismic Calculations	1.5.5														
			Structural Calculations for	1.3.5.1														
			Deflection															
			SD-06 Test Reports															
			Field Water Spray Test Results	1.4.1														
			Air Infiltration Test Results	1.4.2														
			Water Penetration Test Results	1.4.2.1														

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		08 44 00	SD-07 Certificates															
			Energy Performance Certificates	1.3.5.5														
			Qualifications for the Curtain-Wall Installer	1.3.2														
			SD-08 Manufacturer’s Instructions															
			Glazed Curtain Wall System	1.5														
			Insulating Glass	3.3.10														
			Preventive Maintenance and Inspection	3.6.2														
			SD-11 Closeout Submittals															
			Warranty	1.7														
		08 51 13	SD-02 Shop Drawings															
			Windows	2.1														
			Fabrication Drawings	1.7														
			SD-03 Product Data															
			Windows	2.1														
			Fasteners	2.2.2														
			Window Performance	1.8														
			Thermal-Barrier Windows	2.3														
			Accessories	2.2.7														
			Thermal Performance	1.8.4														
			SD-04 Samples															
			Finish Sample	1.3.3.1														
			Window Sample	1.3.3.2														
			Mock-Ups	1.3.3.3														
			SD-05 Design Data															

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		08 51 13	Structural Calculations for	2.1															
			Deflection																
			SD-06 Test Reports																
			Minimum Condensation	1.3.5															
			Resistance Factor																
			Windborne-Debris-Impact	1.8.5															
			Performance																
			SD-10 Operation and Maintenance																
			Data																
			Windows	2.1															
		08 81 00	SD-03 Product Data																
			Insulating Glass	2.2															
			Sealants	2.3.1															
			Joint Backer	2.3.2															
			SD-04 Samples																
			Insulating Glass	2.2															
			SD-07 Certificates																
			Insulating Glass	2.2															
			SD-08 Manufacturer’s Instructions																
			Setting and Sealing Materials	2.3															
			Glass Setting	3.2															
			SD-11 Closeout Submittals																
			Insulated Glass Units	1.7.1															
		09 29 00	SD-03 Product Data																
			Accessories	2.1.5															
			Gypsum Board	2.1.2															

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		09 29 00	SD-07 Certificates																
			Asbestos Free Materials	2.1.1															
			SD-10 Operation and Maintenance																
			Data																
			Manufacturer Maintenance	3.6															
			Instructions																
		09 90 00	SD-03 Product Data																
			Coating	2.1															
			Product Data Sheets	2.1															
			SD-04 Samples																
			Color	2.2															
			Textured Wall Coating System	1.5.6															
			SD-07 Certificates																
			Qualification Testing	1.5.5.2															
			Indoor Air Quality for Paints and	1.5.4															
			Primers																
			SD-08 Manufacturer’s Instructions																
			Application Instructions	3.2.1															
			Mixing	2.1															
			Manufacturer's Safety Data	1.7.1															
			Sheets																
			SD-10 Operation and Maintenance																
			Data																
			Coatings	2.1															

SECTION 06 10 00

ROUGH CARPENTRY
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PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC)

AITC 111	(2005) Recommended Practice for Protection of Structural Glued Laminated Timber During Transit, Storage and Erection

AMERICAN LUMBER STANDARDS COMMITTEE (ALSC)

ALSC PS 20	(2015) American Softwood Lumber Standard

AMERICAN WOOD COUNCIL (AWC)

AWC NDS	(2015) National Design Specification (NDS) for Wood Construction
AWC WFCM	(2012) Wood Frame Construction Manual for One- and Two-Family Dwellings

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

AWPA BOOK	(2015) AWPA Book of Standards
AWPA M2	(2019) Standard for the Inspection of Preservative Treated Wood Products for Industrial Use
AWPA M6	(2013) Brands Used on Preservative Treated Materials
AWPA P5	(2015) Standard for Waterborne Preservatives
AWPA U1	(2022) Use Category System: User Specification for Treated Wood

APA - THE ENGINEERED WOOD ASSOCIATION (APA)

APA E445	(2002) Performance Standards and Qualification Policy for Structural-Use Panels (APA PRP-108)
APA EWS R540	(2013) Builder Tips: Proper Storage and Handling of Glulam Beams
APA F405	(19) Product Guide: Performance Rated

	Panels
APA L870	(2010) Voluntary Product Standard, PS 1-09, Structural Plywood
APA S350	(2014) PS 2-10, Performance Standard for Wood-Based Structural-Use Panels

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B18.2.1	(2012; Errata 2013) Square and Hex Bolts and Screws (Inch Series)
ASME B18.2.2	(2022) Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series)
ASME B18.5.2.1M	(2006; R 2011) Metric Round Head Short Square Neck Bolts
ASME B18.5.2.2M	(1982; R 2010) Metric Round Head Square Neck Bolts
ASME B18.6.1	(2016) Wood Screws (Inch Series)

ASTM INTERNATIONAL (ASTM)

ASTM A153/A153M	(2016a) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A307	(2021) Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
ASTM F547	(2017) Standard Terminology of Nails for Use with Wood and Wood-Base Materials

INTERNATIONAL CODE COUNCIL (ICC)

ICC IBC	(2018) International Building Code

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

CID A-A-1923	(Rev A; Notice 3) Shield, Expansion (Lag, Machine and Externally Threaded Wedge Bolt Anchors)
CID A-A-1924	(Rev A; Notice 3) Shield, Expansion (Self Drilling Tubular Expansion Shell Bolt Anchors
CID A-A-1925	(Rev A; Notice 3) Shield Expansion (Nail Anchors)

WEST COAST LUMBER INSPECTION BUREAU (WCLIB)

WCLIB 17	(2015) Standard Grading Rules

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Nailers and Nailing Strips

Drawings of field erection details, including materials and methods of fastening nailers in conformance with Factory Mutual wind uplift rated systems specified in other Sections of these Specifications.

SD-06 Test Reports

Preservative-treated Lumber and Plywood

SD-07 Certificates

Preservative Treatment

1.3 DELIVERY AND STORAGE

Deliver materials to the Site in an undamaged condition. Store, protect, handle, and install prefabricated structural elements in accordance with manufacturer's instructions and as specified. Store materials off the ground to provide proper ventilation, with drainage to avoid standing water, and protection against ground moisture and dampness and protection against snow and ice build-up/accumulation. Store materials with a moisture barrier at both the ground level and as a cover forming a well ventilated enclosure. Store wood I-beams and glue-laminated beams and joists on edge. Adhere to requirements for stacking, lifting, bracing, cutting, notching, and special fastening requirements. Handle and store laminated timber in accordance with AITC 111 or APA EWS R540. Do not use materials that have visible moisture or biological growth. Remove defective and damaged materials and provide new materials. Store separated reusable wood waste convenient to cutting station and Area of Work.

1.4 GRADING AND MARKING

1.4.1 Lumber

Mark each piece of framing and board lumber or each bundle of small pieces of lumber with the grade mark of a recognized association or independent inspection agency. Such association or agency must be certified by the Board of Review, American Lumber Standards Committee, to grade the species used. Surfaces that are to be exposed to view must not bear grademarks, stamps, or any type of identifying mark. Hammer marking will not be permitted on timbers.

1.4.2 Plywood

Mark each sheet with the mark of a recognized association or independent inspection agency that maintains continuing control over the quality of the plywood. The mark must identify the plywood by species group or span rating, exposure durability classification, grade, and compliance with APA L870. Surfaces that are to be exposed to view must not bear

grademarks or other types of identifying marks.

1.4.3 Preservative-Treated Lumber and Plywood

The Contractor is responsible for the quality of treated wood products. Each treated piece must be inspected in accordance with AWPA M2 and permanently marked or branded, by the producer, in accordance with AWPA M6. The Contractor must provide the Contracting Officer with the inspection report of an approved independent inspection agency that offered products comply with applicable AWPA Standards. The appropriate Quality Mark on each piece will be accepted, in lieu of inspection reports, as evidence of compliance with applicable AWPA treatment standards.

1.5 SIZES AND SURFACING

ALSC PS 20 for dressed sizes of yard and structural lumber. Lumber must be surfaced four sides. Size references, unless otherwise specified, are nominal sizes, and actual sizes must be within manufacturing tolerances allowed by the standard under which the product is produced. Other measurements are IP or SI standard.

1.6 MOISTURE CONTENT

Air-dry or kiln-dry lumber. Kiln-dry treated lumber after treatment. Maximum moisture content of wood products must be as follows at the time of delivery to the Project Site:

a. Framing lumber and board, 19 percent maximum

b. Timbers 5 inches and thicker, 25 percent maximum

c. Roof planking, 15 percent maximum

d. Materials other than lumber; moisture content must be in accordance with standard under which the product is produced

1.7 PRESERVATIVE TREATMENT

Treat wood products with waterborne wood preservatives conforming to AWPA P5. Pressure treatment of wood products must conform to the requirements of AWPA BOOK Use Category System Standards U1 and T1. Pressure-treated wood products must not contain arsenic, chromium, or other agents classified as carcinogenic, probably carcinogenic, or possibly carcinogenic to humans (compounds in Groups 1, 2A, or 2B) by the International Agency for Research on Cancer (IARC), Lyon, France. Pressure-treated wood products must not exceed the limits of the U.S. EPA's Toxic Characteristic Leaching Procedure (TCLP), and must not be classified as hazardous waste. Submit certification from treating plant stating chemicals and process used and net amount of preservatives retained are in conformance with specified standards. In accordance with AWPA U1 provide non-copper preservative treatment such as EL2, PTI or SBX,DOT for products in direct contact with sheet metal.

a. 0.25 pcf intended for above ground use.

b. 0.40 pcf intended for ground contact and fresh water use. 0.60 pcf intended for Ammoniacal Copper Quaternary Compound (ACQ)-treated foundations. 0.80 to 1.00 pcf intended for ACQ-treated pilings. All wood must be air or kiln dried after treatment. Specific treatments

must be verified by the report of an approved independent inspection agency, or the AWPA Quality Mark on each piece. Do not incise surfaces of lumber that will be exposed. Brush coat areas that are cut or drilled after treatment with either the same preservative used in the treatment or with a 2 percent copper naphthenate solution. All lumber and woodwork must be preservative treated unless noted otherwise on the Drawings. The following items must be preservative treated:

(1) Wood framing, woodwork, and plywood up to and including the subflooring at the first-floor level of structures having crawl spaces when the bottoms of such items are 24 inches or less from the earth underneath.

(2) Wood members that are in contact with water.

(3) Exterior wood steps, platforms, and railings; and all wood framing of open, roofed structures.

(4) Wood sills, soles, plates, furring, and sleepers that are less than 24 inches from the ground, furring and nailers that are set into or in contact with concrete or masonry.

(5) Nailers, edge strips, crickets, curbs, and cants for roof decks.

1.7.1 Existing Structures

Use borate, permathrin, or a sodium silicate wood mineralization process to treat wood. Use borate for interior applications only.

1.8 QUALITY CONTROL

1.8.1 Humidity Requirements

Sequence Work to minimize use of temporary HVAC to dry out building and control humidity.

1.9 ENVIRONMENTAL REQUIREMENTS

During and immediately after installation of treated wood, engineered wood products, and laminated wood products at interior spaces, provide temporary ventilation.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Virgin Lumber

Lumber fabricated from old growth timber is not permitted. Avoid companies who buy, sell, or use old growth timber in their operations, when possible.

2.2 LUMBER

2.2.1 Framing Lumber

Finger jointed lumber is not allowed. Framing lumber such as studs, plates, caps, collar beams, cant strips, bucks, sleepers, nailing strips,

and nailers and board lumber such as subflooring and wall and roof sheathing must be one of the species listed in the table below. Minimum grade of species must be as listed.

Table of Grades for Framing and Board Lumber

Grading Rules	Species	Framing	Board Lumber
WCLIB 17 standard grading rules	Douglas Fir-Larch (DF-L), Hem-Fir (HF),	All Species: Standard Light Framing or No. 2 Structural Light Framing (Stud Grade for 2x4 nominal size, 10 feet and shorter)	All DF-L and HF Species: Standard

2.3 PLYWOOD

APA L870, APA S350, APA E445, and APA F405 respectively. The use of Oriented Strand Board (OSB) is prohibited.

2.3.1 Wall Sheathing

2.3.1.1 Plywood

C-D Grade, Exposure 1, and a minimum thickness to match existing, except where indicated to have greater thickness. Provide exterior grade material with phenol resin for interior and exterior applications.

2.3.2 Other Uses

2.3.2.1 Plywood

C-D Grade, Exposure 1.

2.4 OTHER MATERIALS

2.4.1 Miscellaneous Wood Members

2.4.1.1 Nonstress Graded Members

Members must include bridging, corner bracing, furring, grounds, and nailing strips. Sizes must be noted on the Drawings.

2.4.1.2 Blocking

Blocking must be standard or number 2 grade Douglas Fir or Hem Fir.

2.5 ROUGH HARDWARE

Unless otherwise indicated or specified, rough hardware must be of the type and size necessary for the Project requirements. Sizes, types, and spacing of fastenings of manufactured building materials must be as recommended by the product manufacturer unless otherwise indicated or specified. Rough hardware exposed to the weather or embedded in or in contact with preservative treated wood, exterior masonry, or concrete walls or slabs must be 316 stainless steel.

2.5.1 Bolts, Nuts, Studs, and Rivets

ASME B18.2.1, ASME B18.5.2.1M, ASME B18.5.2.2M and ASME B18.2.2. All bolts and nuts shall be galvanized. Studs embedded in concrete shall be galvanized.

2.5.2 Anchor Bolts

ASTM A307, size as indicated, complete with nuts and washers. All anchor bolts shall be galvanized.

2.5.3 Expansion Shields

CID A-A-1923, CID A-A-1924, and CID A-A-1925. Except as shown otherwise, maximum size of devices must be 3/8 inch.

2.5.4 Lag Screws and Lag Bolts

ASME B18.2.1.

2.5.5 Wood Screws

ASME B18.6.1.

2.5.6 Nails

ASTM F547, size and type best suited for purpose. For sheathing and subflooring, length of nails must be sufficient to extend 1 inch into supports. In general, 8-penny or larger nails must be used for nailing through 1 inch thick lumber and for toe nailing 2 inch thick lumber; 16-penny or larger nails must be used for nailing through 2 inch thick lumber. Nails used with treated lumber and sheathing must be hot-dipped galvanized in accordance with ASTM A153/A153M. Nailing must be in accordance with the recommended nailing schedule contained in AWC WFCM or as noted on Drawings.

Where detailed nailing requirements are not specified, nail size and spacing must be sufficient to develop an adequate strength for the connection. The connection's strength must be verified against the nail capacity tables in AWC NDS. Reasonable judgment backed by experience must ensure that the designed connection will not cause the wood to split. If a load situation exceeds a reasonable limit for nails, a specialized connector must be used.

2.5.7 Clip Angles

Steel, 3/16 inch thick, size best suited for intended use and shall be zinc-coated steel or iron commercially available clips designed for connecting wood members.

PART 3 EXECUTION

3.1 INSTALLATION

Do not install building construction materials that show visual evidence of biological growth.

Conform to AWC WFCM and install in accordance with the National Association of Home Builders (NAHB) Advanced Framing Techniques: Optimum Value Engineering, unless otherwise indicated or specified. Select lumber sizes to minimize waste. Fit framing lumber and other rough carpentry, set accurately to the required lines and levels, and secure in place in a rigid manner. Do not splice framing members between bearing points. Provide as necessary for the proper completion of the Work all framing members not indicated or specified. Nailing not indicated or specified otherwise must be in accordance with the Nailing Schedule contained in ICC IBC; perform bolting in an approved manner. Nails, and bolts must be drawn up tight.

3.2 MISCELLANEOUS

3.2.1 Wood Blocking

Provide proper sizes and shapes at proper locations for the installation and attachment of wood and other finish materials, fixtures, equipment, and items indicated or specified.

3.2.2 Temporary Closures

Cover windows and other unprotected openings with polyethylene or other approved material, stretched on wood frames. Provide dustproof barrier partitions to isolate areas as directed.

3.3 WASTE MANAGEMENT OF WOOD PRODUCTS

In accordance with the Waste Management Plan and as specified. Clearly separate damaged wood and other scrap lumber for acceptable alternative uses on Project Site, including bracing, blocking, cripples, ties, and shims.

Separate treated, stained, painted, and contaminated wood and place in designated area for hazardous materials. Dispose of according to local regulations. Prevent sawdust and wood shavings from entering the storm drainage system. Do not burn scrap lumber that has been pressure treated, or lumber that is less than one year old.

-- End of Section --

SECTION 06 20 00

FINISH CARPENTRY
08/16, CHG 2: 11/18

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 LUMBER STANDARDS COMMITTEE (ALSC)

ALSC PS 20	(2015) American Softwood Lumber Standard

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B18.2.1	(2012; Errata 2013) Square and Hex Bolts and Screws (Inch Series)
ASME B18.2.2	(2022) Nuts for General Applications: Machine Screw Nuts, and Hex, Square, Hex Flange, and Coupling Nuts (Inch Series)
ASME B18.6.1	(2016) Wood Screws (Inch Series)

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

AWPA M4	(2021) Standard for the Care of Preservative-Treated Wood Products
AWPA U1	(2022) Use Category System: User Specification for Treated Wood

ASTM INTERNATIONAL (ASTM)

ASTM F547	(2017) Standard Terminology of Nails for Use with Wood and Wood-Base Materials

NATIONAL HARDWOOD LUMBER ASSOCIATION (NHLA)

NHLA Rules	(2015) Rules for the Measurement & Inspection of Hardwood & Cypress

NORTHEASTERN LUMBER MANUFACTURERS ASSOCIATION (NELMA)

NELMA Grading Rules	(2013) Standard Grading Rules for Northeastern Lumber

REDWOOD INSPECTION SERVICE (RIS) OF THE CALIFORNIA REDWOOD ASSOCIATION (CRA)

RIS Grade Use	(1998) Redwood Lumber Grades and Uses

SOUTHERN PINE INSPECTION BUREAU (SPIB)

SPIB 1003 (2014) Standard Grading Rules for Southern Pine Lumber

WEST COAST LUMBER INSPECTION BUREAU (WCLIB)

WCLIB 17 (2015) Standard Grading Rules

WESTERN WOOD PRODUCTS ASSOCIATION (WWPA)

WWPA G-5 (2017) Western Lumber Grading Rules

WINDOW AND DOOR MANUFACTURERS ASSOCIATION (WDMA)

WDMA I.S.4 (2015A) Preservative Treatment for Millwork

WOOD MOULDING AND MILLWORK PRODUCERS ASSOCIATION (WMMPA)

WMMPA WM 6 (2007) Quality Industry Standards Booklet

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Detail Drawings Indicating All Wood Assemblies;

SD-03 Product Data

Wood Products

Treated Wood Products

Fascias and Trim

1.3 DETAIL DRAWINGS

Submit detail drawings indicating all wood assemblies proposed for use in the project. Indicate materials, species, grade, density, grain, finish details of construction, location of use in the project, finishes, types, method and arrangement of fasteners, and installation details. This includes all fabricated assemblies.

1.4 PRODUCT DATA

Submit Manufacturers printed data including proposed species, grade, density grain, and finish as applicable; sufficient to demonstrate compliance with this specification for each type of wood product specified. For treated wood products also provide documentation of environmentally safe preservatives for each type of wood product specified.

Provide Manufacturers printed data for hardware and all wood accessories including but not limited to edge banding, adhesives, and sealers.

1.5 DELIVERY, STORAGE, AND HANDLING

Deliver wood products to the jobsite in an undamaged condition. Stack materials to ensure ventilation and drainage. Protect against dampness before and after delivery. Store materials under cover in a well ventilated enclosure and protect against extreme changes in temperature and humidity. Keep materials wrapped and separated from off-gassing materials (such as drying paints and adhesives). Do not use materials that have visible moisture or biological growth. Do not store products in building until wet trade materials are dry and humidity of the space is within wood manufacturer's tolerance limits for storage.

1.6 QUALITY ASSURANCE

1.6.1 Lumber

Identify each piece or each bundle of lumber, millwork, and trim by the grade mark of a recognized association or independent inspection agency certified by the Board of Review of the ALSC to grade the species.

1.6.2 Non-Pressure Treated Woodwork and Millwork

Mark, stamp, or label to indicate compliance with WDMA I.S.4.

PART 2 PRODUCTS

2.1 WOOD PRODUCTS

2.1.1 Sizes and Patterns of Wood Products

Provide yard and board lumber sizes in accordance with ALSC PS 20. Provide shaped lumber and millwork in the patterns indicated and in standard patterns of the association covering the species. Size references, unless otherwise specified, are nominal sizes. Provide actual sizes within manufacturing tolerances allowed by the applicable standard.

2.1.2 Species and Grades

Provide in accordance with AWPA U1 Use Category System Tables unless otherwise specified herein.

2.1.3 Trim, Finish, and Frames

Provide species and grades listed in the table below for wood materials that must be painted. For materials that must be stained, have a natural, or a transparent finish, provide materials one grade higher than those listed in the table below. Provide trim, except window stools and aprons with hollow backs.

TABLE OF GRADES FOR WOOD TO RECEIVE PAINT FINISH		
Grading Rules	Species	Exterior and Interior Trim, Finish, and Frames
WWPA G-5 standard grading rules	Aspen, Douglas Fir-Larch, Douglas Fir South, Engelmann Spruce-Lodgepole Pine, Engelmann Spruce, Hem-Fir, Idaho White Pine, Lodgepole Pine, Mountain Hemlock, Mountain Hemlock-Hem-Fir, Ponderosa Pine-Sugar Pine, (Ponderosa Pine-Lodgepole Pine,) White Woods, (Western Woods,) Western Cedars, Western Hemlock	All Species: C & BTR. Select (Choice & BTR Idaho White Pine) or Superior Finish. Western Red Cedar may be graded C & BTR. Select or A & BTR in accordance with Special Western Red Cedar Rules.
WCLIB 17 standard grading rules	Douglas Fir-Larch, Hem-Fir, Mountain Hemlock, Sitka Spruce, Western Cedars, Western Hemlock	All Species: C & BTR VG, except A for Western Red Cedar
SPIB 1003 standard grading rules	Southern Pine	C & BTR
NHLA Rules	Cypress	C-Select
NELMA Grading Rules standard grading rules **	Balsam Fir, Eastern Hemlock-Tamarack, Eastern Spruce, Eastern White Pine, Northern Pine, Northern Pine, Northern White Cedar	All Species: C-Select except C & BTR for Eastern White Pine and Norway Pine
RIS Grade Use standard specifications	Redwood	Clear, Clear All Heart
NHLA Rules	Cypress	B Finish
	Red Gum, Soft Elm, Birch	Select or BTR (for interior use only)

Note: ** http://www.nelma.org/library/2013-standard-grading-rules-for-northeastern-lumber/

2.2 FASCIAS AND TRIM

2.2.1 Wood

Provide species and grades for all fascia and trim, including exterior door and window casings, in accordance with AWPA U1 Use Category System Tables. Provide sizes indicated. Metal corners may be provided in lieu of wood corner boards for horizontal siding. If metal corners are used, provide galvanized steel or aluminum, completely coated with primer compatible for the specific metal substrate.

2.3 MOISTURE CONTENT OF WOOD PRODUCTS

Air dry or kiln dry lumber. Kiln dry treated lumber after treatment. Maximum moisture content of wood products at time of delivery to the jobsite, and when installed, must be as follows:

a. Interior Finish Lumber, Trim, and Millwork: 1-1/4 Inches Nominal or Less in Thickness: 6 percent on 85 percent of the pieces and 8 percent on remainder.

b. Exterior Treated and Untreated Finish Lumber and Trim: 4 inches Nominal or Less in Thickness: 19 percent.

2.4 PRESERVATIVE TREATMENT OF WOOD PRODUCTS

2.4.1 Non-Pressure Treatment

Treat woodwork and millwork, such as exterior trim, door trim, and window trim, in accordance with WDMA I.S.4, with either 2 percent copper napthenate, 3 percent zinc napthenate, or 1.8 percent copper-8-quinolinolate. Provide a liberal brush coat of preservative treatment to field cuts and holes.

2.4.2 Pressure Treatment

Treat lumber and plywood used on the exterior of buildings with a waterborne preservative listed in AWPA U1 (P series is included therein by reference) as applicable, and inspected in accordance with AWPA U1. Identify treatment on each piece of material by the quality mark of an agency accredited by the Board of Review of the American Lumber Standards Committee. Provide treated plywood to a reflection level as follows:

Preservative treat exterior wood moulding and millwork that will be within 18 inches of soil or in contact with water or concrete in accordance with WMMPA WM 6. Provide a field treatment in accordance with AWPA M4 of exposed areas of treated wood that have been cut or drilled. Items of all-heart material of cedar, cypress, or redwood do not require preservative treatment except when in direct contact with soil.

2.5 HARDWARE AND ACCESSORIES

Provide sizes, types, and spacings of hardware and accessories as recommended in writing by the wood product manufacturer, except as otherwise specified.

2.5.1 Wood Screws

ASME B18.6.1.

2.5.2 Bolts, Nuts, Lag Screws, and Studs

ASME B18.2.1 and ASME B18.2.2.

2.5.3 Nails

Use nails of a size and type best suited for each application and in accordance with ASTM F547. Use hot-dipped galvanized or aluminum nails for exterior applications. For siding, provide nails of sufficient length to extend 1-1/2 inches into supports, including wood sheathing over framing. Where nailing is impractical, provide screws of a size and type best suited for each application.

2.6 FABRICATION

2.6.1 Quality Standards (QS)

2.6.1.1 Grades

The terms "Premium," "Custom," and "Economy" refer to the quality grades defined in NAAWS 3.1. Provide items not otherwise specified in a specific grade as "Custom" grade.

2.6.1.2 Adhesives

Select adhesives for durability and permanent bonding. Address factors such as materials that must be bonded, expansion and contraction, bond strength, fire rating, moisture resistance, and manufacturer's recommendations.

PART 3 EXECUTION

Do not install building construction materials that show visual evidence of biological growth.

3.1 FINISH WORK

Apply primer to finish work before installing. Where practicable, shop assemble and finish millwork items. Construct joints tight and in a manner to conceal shrinkage but to avoid cupping, twisting and warping after installation. Miter trim and mouldings at exterior angles; cope at interior angles and at returns. Provide millwork and trim in maximum practical lengths. Fasten finish work with finish nails. Provide blind nailing where practicable. Set face nails for putty stopping.

3.1.1 Exterior Finish Work

Machine sand exposed flat members and square edges. Machine finish semi-exposed surfaces. Construct joints to exclude water. In addition to nailing, glue joints with waterproof glue as necessary for weather resistant construction. Evenly distribute end joints in built-up members. Provide shoulder joints in flat work. Reinforce backs of wide-faced miters with metal rings and waterproof glue. Unless otherwise indicated, provide fascia and other flat members 3/4 inch thick minimum. Provide door and window trim in single lengths. Provide braced, blocked, and rigidly anchored cornices for support and protection of vertical joints. Provide soffits in largest practical size. Align joints of plywood over centerlines of supports. Fasten soffits with aluminum or

stainless steel nails. Back prime all concealed surfaces of exterior trim.

3.1.2 Interior Finish Work

After installation, sand exposed surfaces smooth. Provide window and door trim in single lengths.

3.1.3 Window Stools and Aprons

Provide stools with rabbets over window sills. Provide aprons with returns cut accurately to profile of member.

3.1.4 Bases

Provide flat member with a moulded top and oak shoe mould. Fasten base to framing or to grounds.

3.2 FASCIA AND EXTERIOR TRIM

Construct, caulk, and machine sand exposed surfaces and edges to exclude water. In addition to nailing, glue joints as necessary for weather resistance. Evenly distribute end joints in built-up members. Shoulder joints in flat work. Reinforce backs of wide-faced miters with metal rings and glue. Provide fascia and other flat members in maximum practicable lengths. Braced, block, and rigidly anchor cornices for support and protection of vertical joints.

3.3 MOULDING AND INTERIOR TRIM

Install mouldings and interior trim straight, plumb, level and with closely fitted joints. Provide exposed surfaces machine sanded at the shop. Cope returns and interior angles at moulded items and miter external corners. Shoulder intersections of flatwork to ease any inherent changes in plane. Provide window and door trim in single lengths. Blind nail to the extent practicable. Set and stop face nailing with a nonstaining putty to match the applied finish. Use screws for attachment to metal; set and stop screws in accordance with the same quality requirements for nails.

-- End of Section --

SECTION 07 13 53

ELASTOMERIC SHEET WATERPROOFING
11/21

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM C1305	(2008) Standard Test Method for Crack Bridging Ability of Liquid-Applied Waterproofing Membrane
ASTM D41/D41M	(2011; R 2016) Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing
ASTM D146/D146M	(2004; E 2012; R 2012) Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing
ASTM D297	(2015; R 2019) Rubber Products - Chemical Analysis
ASTM D412	(2016) Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
ASTM D429	(2014) Rubber Property-Adhesion to Rigid Substrates
ASTM D471	(2016a) Standard Test Method for Rubber Property - Effect of Liquids
ASTM D570	(1998; E 2010; R 2010) Standard Test Method for Water Absorption of Plastics
ASTM D573	(2004; R 2019) Standard Test Method for Rubber - Deterioration in an Air Oven
ASTM D624	(2000; R 2020) Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
ASTM D638	(2014) Standard Test Method for Tensile Properties of Plastics
ASTM D746	(2014) Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
ASTM D751	(2006; R 2011) Coated Fabrics

ASTM D903	(1998; R 2017) Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
ASTM D1004	(2013) Initial Tear Resistance of Plastic Film and Sheeting
ASTM D1149	(2007; R 2012) Standard Test Method for Rubber Deterioration - Surface Ozone Cracking in a Chamber
ASTM D1204	(2014; R 2020) Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature
ASTM D1876	(2008; R 2015; E 2015) Standard Test Method for Peel Resistance of Adhesives (T-Peel Test)
ASTM D2136	(2002; R 2012) Coated Fabrics - Low-Temperature Bend Test
ASTM D2240	(2015; E 2017) Standard Test Method for Rubber Property - Durometer Hardness
ASTM D3045	(1992; R 2010) Practice for Heat Aging of Plastics Without Load
ASTM D5385/D5385M	(1993; R 2014; E 2014) Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
ASTM E96/E96M	(2016) Standard Test Methods for Water Vapor Transmission of Materials
ASTM E154/E154M	(2008a; R 2013; E 2013) Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Manufacturer's Standard Details

Elastomeric Waterproofing Sheet Materials

Primers, Adhesives, and Mastics

SD-06 Test Reports

Elastomeric Waterproofing Sheet Materials

Field Quality Control documentation

SD-07 Certificates

Elastomeric Waterproofing Sheet Materials

Primers, Adhesives, and Mastics

Draft Special Warranties

Final Special Warranties

Certificates Of Compliance

SD-08 Manufacturer's Instructions

Primers, Adhesives, and Mastics

SD-11 Closeout Submittals

Certificates Of Compliance with sustainable requirements for items listed in SD-07

1.3 MANUFACTURER'S STANDARD DETAILS

Submit manufacturer's standard details indicating methods of attachment and spacing, transition and termination details, and installation details. Include verification of existing conditions.

1.4 PRODUCT DATA

1.4.1 Primers, Adhesives, and Mastics

Include manufacturer's Safety Data Sheets (SDS) for primers, adhesives, and mastics

1.5 DELIVERY, STORAGE, HANDLING, IDENTIFICATION

Deliver and store materials in accordance with manufacturer's printed instructions, out of the weather, in manufacturer's original packaging with brand name and product identification clearly marked. Keep materials wrapped and separated from off-gassing materials (such as drying paints and adhesives). Do not use materials that have visible moisture or biological growth. Do not permit unidentified materials in the Work Area or in the Project.

1.6 ENVIRONMENTAL CONDITIONS

Do not apply waterproofing during inclement weather or when there is ice, frost, surface moisture, or visible dampness on the surface to receive waterproofing for when ambient and surface temperatures are 40 degrees F or below.

1.7 SPECIAL WARRANTIES

1.7.1 Guarantee

Guarantee waterproofing membrane installation against failure due to leaks for a period of two years from the date of Beneficial Occupancy. Submit draft and final guarantees in accordance with Sections 01 78 00 CLOSEOUT

SUBMITTALS and 01 78 23 OPERATION AND MAINTENANCE DATA.

1.7.2 Warranty

Provide manufacturer's material warranty for all system components for a period of ten years from the date of Beneficial Occupancy. Submit draft and final warranties in accordance with Sections 01 78 00 CLOSEOUT SUBMITTALS and 01 78 23 OPERATION AND MAINTENANCE DATA.

PART 2 PRODUCTS

2.1 ELASTOMERIC WATERPROOFING SHEET MATERIALS

Provide one of the types of elastomeric waterproofing sheet material and related primers, adhesives, and mastics as specified herein. Ensure compatibility of waterproofing materials with each other, and with materials on which they are applied. Provide materials that comply with applicable requirements cited below when tested in accordance with the referenced ASTM publications.

2.2 BUTYL RUBBER SHEETING

Not less than 60 mils minimum thickness.

2.2.1 Butyl Rubber Sheeting Performance Requirements

a. Thickness Tolerance, ASTM D412: Plus or minus 10 percent.

b. Specific Gravity, ASTM D297: 1.20, plus or minus 0.05.

c. Tensile Strength, ASTM D412: 1200 psi minimum.

d. Tensile Stress at 300 percent elongation, ASTM D412: 600 psi minimum.

e. Elongation, ASTM D412: 300 percent minimum.

f. Tear Resistance, Die C, ASTM D624: 150 pound force per inch (lbf/inch) minimum.

g. Shore A Hardness, ASTM D2240: 5-second interval before reading; 60 plus or minus 10.

h. Ozone Resistance, ASTM D1149: No cracks, 7 days - 50 pphm - 100 degrees F, 20 percent elongation.

i. Heating Aging-Accelerated, ASTM D573: Tensile retention, 60 percent of minimum original elongation retention; 60 percent of minimum original requirement; 7 days, 240 degrees F.

j. Butyl Identification, ASTM D471 REV A, Tricresyl Phosphate Immersion: Maximum volume swell 10 percent, 70 hrs, 212 degrees F.

k. Low Temperature Flexibility, ASTM D746: No failure at minus 40 degrees F.

l. Water Absorption, ASTM D471 REV A: Plus 1 percent maximum. 7 days, 158 degrees F.

m. Exposure to Fungi and Bacteria in Soil, ASTM E154/E154M REV A, Minimum

16 Weeks: Unaffected.

n. Water Vapor Transmission, 80 degrees F Permeance, ASTM E96/E96M, Procedure B or BW: 0.15 perms maximum.

2.2.2 Adhesive, Cement, and Tape for Use with Butyl Rubber

As recommended by the butyl rubber waterproofing membrane manufacturer.

2.3 THERMOPLASTIC MEMBRANE: POLYVINYL CHLORIDE (PVC)

Polyvinyl chloride (PVC) flexible sheets with non-woven fiberglass reinforcing not less than 60 mils minimum thickness.

2.3.1 Thermoplastic Membrane Performance Requirements

a. Overall thickness, ASTM D751: .059 inches minimum

b. Tensile strength, ASTM D638: 1600 psi minimum

c. Elongation at break, ASTM D638: 250 percent minimum

d. Seam strength, ASTM D638: 90 percent minimum of tensile strength

e. Retention of properties after heat aging, ASTM D3045

f. Tensile strength, ASTM D638: 95 percent of original

g. Elongation, ASTM D638: 95 percent of original

h. Tear resistance, ASTM D1004: 17 lbf

i. Low Temperature Bend, ASTM D2136: minus 40 degrees F

j. Liner Dimensional Change, ASTM D1204: 0.002 percent

k. Weight Change After Immersion in Water, ASTM D570: 2.0 percent maximum

2.3.2 Adhesives

a. Adhesive for thermoplastic flashings as recommended by manufacturer.

b. Adhesive for Sub-Membrane Grid: 100 percent solids, two part urethane, with minimum tensile strength of 150 psi, in accordance with ASTM D412 and adhesion to concrete of 12 ply in accordance with ASTM D429 as recommended by manufacturer.

2.3.3 Accessories

Securement Strip: 14 gauge stainless steel metal bar 1 inch wide, pre-punched 1 inch on center for securement.

2.4 COMPOSITE, SELF-ADHERING MEMBRANE SHEETING

Cold applied composite sheet consisting of rubberized asphalt and cross laminated, high density polyethylene film. Not less than 60 mils minimum thickness is required.

2.4.1 Composite, Self-Adhering Sheeting Performance Requirements

a. Tensile Strength ASTM D412, Die C: 250 psi minimum.

b. Ultimate Elongation, ASTM D412, Die C: 200 percent minimum.

c. Water Vapor Transmission, ASTM E96/E96M 80 degrees F Permeance, Procedure B: 0.1 perm maximum.

d. Pliability degrees, ASTM D146/D146M: (180 degrees Bend Over 1 Inch Mandrel): No cracks at minus minus 25 degrees F.

e. Provide test report data for crack bridging ability: Either in accordance with ASTM C1305 as modified for a dry film thickness specified by the manufacturer and conducted at low temperature; or in accordance with a cycling over crack test also conducted for the specified dry film thickness at low temperature. Using either test, verify crack bridging up to 1/4 inch without damage to the membrane system.

f. Puncture Resistance, ASTM E154/E154M REV A: 40 lb minimum.

g. Lap Adhesion at Minimum Application Temperature, ASTM D1876 Modified, 5 lbs/in.

h. Peel Strength, ASTM D903: Modified 9 lbs/in.

i. Resistance to Hydrostatic Head, ASTM D5385/D5385M: 231 ft of water.

j. Water Absorption, ASTM D570; 0.1 percent maximum.

2.4.2 Primers

Asphalt composition, ASTM D41/D41M, or synthetic polymer in solvent as recommended by the membrane manufacturer.

2.4.3 Mastics

Polymer modified asphalt in suitable solvent of trowel grade consistency and as recommended by the membrane manufacturer.

PART 3 EXECUTION

3.1 VERIFICATION OF CONDITIONS

Before starting the Work, verify surfaces that must be waterproofed are in satisfactory condition. Notify the Contracting Officer of defects or conditions anticipated to prevent a satisfactory application. Do not start application until defects and conditions have been corrected.

3.2 SURFACE PREPARATION

Ensure surfaces to receive treatment are clean, dry, smooth, and free from deleterious materials and projections. Cut off high spots or grind smooth. Finish top surfaces of projecting masonry or concrete ledges below grade, except footings, to a steep bevel with Portland cement mortar. Sweep surfaces to receive covering before applying waterproofing to remove dust and foreign matter. Cure concrete by a method compatible with the waterproofing system.

3.3 APPLICATION

3.3.1 Building Envelope Requirements

Provide a continuous waterproofing system at all material and building transitions. Lap, wrap, fasten and seal products in accordance with manufacturer's printed instructions. Envelope assembly variations are not permitted without written approval from the Contracting Officer.

3.3.2 General Installation Requirements

Provide sheet waterproofing in accordance with manufacturer's printed installation instructions. Ensure the surface to receive membrane is clean, smooth and dry without surface irregularities; correct deficiencies prior to installation. When using solvent welding liquid, avoid prolonged contact with skin and breathing of vapor and provide adequate ventilation. Carry waterproofing of horizontal surfaces up abutting vertical surfaces and adhere solid to the substrate. Avoid wrinkles and buckles in applying membrane and joint reinforcement.

3.3.2.1 Non-Self-Adhering Membrane

Unroll membrane and allow to remain flat for at least one-half hour before application. Apply an asphalt concrete primer prior to application of asphaltic adhesive. Where solvent adhesive is applied, allow major portion of solvent to evaporate so that bonding adhesive does not stick to a dry finger touching it. Apply elastomeric waterproofing membrane in a full bed of adhesive at a uniform coverage rate in accordance with the membrane manufacturer's printed instructions. Pull membrane tight without stretching. As soon as adhesive is fully set and dry, recheck lap splices. Where openings or fishmouths appear, reseal and reroll lap splices.

3.3.2.2 Self-Adhering Membrane

Apply composite, self-adhering membrane on surfaces primed at a uniform coverage rate in accordance with membrane manufacturer's printed instructions. Remove release sheet and apply with tacky surface in contact with dried primer.

3.3.2.3 Protection

Protect membrane over horizontal surfaces from traffic during installation. Use only equipment with rubber tires. Provide walkway protection where heavy traffic from other trades is expected. Do not store material on membrane.

3.3.3 Butyl Rubber

Lap sheets at sides and ends a minimum of 6 inches over the preceding sheet. Apply lap splicing cement over entire 6 inches splice area prior to application of sealant. Make sealant continuous along the entire length of the splice. Maintain a continuous bead of sealant at all membrane splices or as required by the manufacturer. Provide a tongue and groove cemented splice a minimum of 6 inches wide with factory made heat vulcanized seam of not less than 2 inches or as required by the manufacturer, when membrane is below water table.

3.3.4 Thermoplastic Membrane (PVC)

Consult with membrane manufacturer prior to grid application. Install 12 inches wide sub-membrane containment grid as required by manufacturer. Provide the containment grid at intervals across the width and length of the substrate, at the base of all transitions, walls, curbs, penetrations, and at the perimeter of each deck/substrate section. Fully adhere strips to the deck in a full bedding of two-part urethane adhesive. Weld adjacent sheets in accordance with manufacturer's instructions. Hot-air weld all side and end lap joints. Provide lap area a minimum of 3 inch wide when machine welding, and a minimum of 4 inch wide when hand welding but not less than recommended by the manufacturer. Orient overlaps with the direction of flow of water.

3.4 COMPOSITE, SELF-ADHERING MEMBRANE

Lap sheets at edges and ends a minimum of 2-1/2 inches over the preceding sheet. Provide all side laps a minimum 2-1/2 inches and end laps 5 inches. Provide self-adhesive, mastic laps in accordance with manufacturer's recommendation. Roll or firmly press to adhere membrane to substrate. Cover corners and joints with two layers of reinforcement by first applying a 12 inch width of membrane centered along the axis. Flash drains and projections with a second ply of membrane for a distance of 6 inches from the drain or projection. Finish exposed, terminated edges of membrane on horizontal or vertical surfaces with a toweled bead of mastic. Apply mastic around edges of membrane, and drains and projections. Apply mastic at end of each work day.

3.5 FLASHING

Flash penetrations through membrane. Seal all penetrations where reinforcing bars penetrate a waterproofing membrane with the appropriate sealant or mastic flashing component. Embed elastomeric membrane in a heavy coat of adhesive, except for self-adhering membrane. Position continuous metal reglets horizontally on footing and vertically on intersecting and connecting walls, and as specified in Section 07 60 00 FLASHING AND SHEET METAL. Metal reglets are to receive exposed edges of membrane waterproofing. Secure membrane into reglets by lead wedges and fill with cement as recommended in writing by manufacturer of waterproofing materials. Counterflash upper edge of membrane waterproofing and protective covering as specified in Section 07 60 00 FLASHING AND SHEET METAL.

3.6 FIELD QUALITY CONTROL

Notify the Contracting Officer 5 working days prior to date of performing tests. Before concealment, cover elastomeric waterproofing on horizontal surfaces over finished spaces with 3 inches of ponded water for 24 hours. Do not add water after start of 24 hour period. Accurately measure water level at beginning and end of 24 hour period. If water level falls, remove water and inspect waterproofing membrane. Make repairs or replacement as directed, and repeat test. Do not proceed with Work that conceals membrane waterproofing before receiving approval and acceptance of the Contracting Officer.

3.7 PROTECTIVE COVERING

After installation has been inspected and approved by the Contracting Officer, apply a protective covering to the membrane waterproofing prior

to backfilling. Protect vertical membrane waterproofing with a 1/2 inch minimum thickness of asphalt plank; 1/2 inch minimum thickness of fiberboard; or 1/8 inch minimum thickness of compatible water resistant bitumen type protection board with edges abutting adjacent edges and exposed surfaces covered by a taping system recommended by manufacturer of protection board. Cover horizontal membrane waterproofing with similar protection board and Portland cement mortar not less than 3/4 inch thick; place uniformly and allow to set before installing subsequent construction.

-- End of Section --

SECTION 07 21 16

MINERAL FIBER BLANKET INSULATION
11/21

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM C665	(2017) Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing
ASTM C930	(2019) Standard Classification of Potential Health and Safety Concerns Associated with Thermal Insulation Materials and Accessories
ASTM D3575	(2020) Flexible Cellular Materials Made From Olefin Polymers
ASTM D3833/D3833M	(1996; R 2011) Water Vapor Transmission of Pressure-Sensitive Tapes
ASTM D4397	(2016) Standard Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E96/E96M	(2016) Standard Test Methods for Water Vapor Transmission of Materials

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

29 CFR 1910.134	Respiratory Protection

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Blanket Insulation

Sill Sealer Insulation

Vapor Retarder

Pressure Sensitive Tape

Accessories

SD-08 Manufacturer's Instructions

Insulation

1.3 DELIVERY, STORAGE, AND HANDLING

1.3.1 Delivery

Deliver materials to Site in original sealed wrapping bearing manufacturer's name and brand designation, Specification number, type, grade, R-value, and class. Store and handle to protect from damage. Do not allow insulation materials to become wet, soiled, crushed, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storing, and protecting of materials before and during installation.

1.3.2 Storage

Inspect materials delivered to the Site for damage; unload and store out of weather in manufacturer's original packaging. Store only in dry locations, not subject to open flames or sparks, and easily accessible for inspection and handling.

1.4 SAFETY PRECAUTIONS

1.4.1 Respirators

Provide installers with dust/mist respirators, training in their use, and protective clothing, all approved by National Institute for Occupational Safety and Health (NIOSH)/Mine Safety and Health Administration (MSHA) in accordance with 29 CFR 1910.134.

1.4.2 Other Safety Concerns

Consider other safety concerns and measures as outlined in ASTM C930.

PART 2 PRODUCTS

2.1 BLANKET INSULATION

ASTM C665, Type I, blankets without membrane coverings

2.1.1 Thermal Resistance Value (R-VALUE)

The R-Value must be R-19 minimum.

2.1.2 Prohibited Materials

Do not provide asbestos-containing materials.

2.2 SILL SEALER INSULATION

Provide polyethylene foam sill sealer with the following characteristics:.

Physical Properties	Test Method	Measurement
Nominal Thickness	ASTM D3575	3/16 inch
Compressive Strength	ASTM D3575	1.2 psi
- Vertical Direction	Suffix D	
Tensile Strength	ASTM D3575	32 psi
	Suffix T	

2.3 VAPOR RETARDER

a. 6 mil thick polyethylene sheeting conforming to ASTM D4397 and having a water vapor permeance of 1 perm or less when tested in accordance with ASTM E96/E96M.

2.4 PRESSURE SENSITIVE TAPE

As recommended by the vapor retarder manufacturer and having a water vapor permeance rating of one perm or less when tested in accordance with ASTM D3833/D3833M.

2.5 ACCESSORIES

2.5.1 Mechanical Fasteners

Corrosion resistant fasteners as recommended by the insulation manufacturer.

2.5.2 Wire Mesh

Corrosion resistant and as recommended by the insulation manufacturer.

PART 3 EXECUTION

3.1 EXISTING CONDITIONS

Before installing insulation, ensure that areas that will be in contact with the insulation are dry and free of projections which could cause voids, compressed insulation, or punctured vapor retarders. If moisture or other conditions are found that do not allow the workmanlike installation of the insulation, do not proceed but notify Contracting Officer of such conditions.

3.2 INSTALLATION

3.2.1 Insulation

Install and handle insulation in accordance with manufacturer's instructions. Keep material dry and free of extraneous materials. Any materials that show visual evidence of biological growth due to presence of moisture must not be installed on the building Project. Ensure personal protective clothing and respiratory equipment is used as required. Observe safe Work practices.

3.2.1.1 Electrical wiring

Do not install insulation in a manner that would sandwich electrical wiring between two layers of insulation.

3.2.1.2 Continuity of Insulation

Install blanket insulation to butt tightly against adjoining blankets and to studs, rafters, joists, sill plates, headers and any obstructions. Provide continuity and integrity of insulation at corners, wall to ceiling joints, roof, and floor. Avoid creating thermal bridges.

3.2.1.3 Insulation without Affixed Vapor Retarder

Provide snug friction fit to hold insulation in place. Stuff pieces of insulation into cracks between trusses, joists, studs and other framing, such as at attic access doors, door and window heads, jambs, and sills, band joists, and headers.

3.2.1.4 Sizing of Blankets

Provide only full width blankets when insulating between trusses, joists, or studs. Size width of blankets for a snug fit where trusses, joists or studs are irregularly spaced.

3.2.1.5 Installation of Sill Sealer

Size sill sealer insulation and place insulation over top of masonry or concrete perimeter walls or concrete perimeter floor slab on grade. Fasten sill plate over insulation.

3.2.2 Installation of Separate Vapor Retarder

Apply continuous vapor retarder as indicated. Overlap joints at least 6 inches and seal with pressure sensitive tape. Seal at sill, header, windows, doors and utility penetrations. Repair punctures or tears with pressure sensitive tape.

-- End of Section --

SECTION 07 60 00

FLASHING AND SHEET METAL
11/21

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN WELDING SOCIETY (AWS)

AWS D1.2/D1.2M	(2014; Errata 1 2014; Errata 2 2020) Structural Welding Code - Aluminum

ASTM INTERNATIONAL (ASTM)

ASTM A480/A480M	(2020a) Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip
ASTM A653/A653M	(2020) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM B209	(2014) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B221	(2021) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B32	(2008; R 2014) Standard Specification for Solder Metal

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA 1793	(2012) Architectural Sheet Metal Manual, 7th Edition

1.2 GENERAL REQUIREMENTS

Finished sheet metal assemblies must form a weathertight enclosure without waves, warps, buckles, fastening stresses or distortion, while allowing for expansion and contraction without damage to the system. The sheet metal installer is responsible for cutting, fitting, drilling, and other operations in connection with sheet metal modifications required to accommodate the Work of other trades. Coordinate installation of sheet metal items used in conjunction with roofing with roofing work to permit continuous, uninterrupted roofing operations.

1.3 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Base Flashing

Counterflashing

Drip Edges

SD-04 Samples

Finish Samples

1.4 MISCELLANEOUS REQUIREMENTS

1.4.1 Product Data

Indicate thicknesses, dimensions, fastenings, anchoring methods, expansion joints, and other provisions necessary for thermal expansion and contraction. Scaled manufacturer's catalog data may be submitted for factory fabricated items.

1.4.2 Finish Samples

Submit two color charts and two finish sample chips from manufacturer's standard color and finish options for each type of finish indicated.

1.5 DELIVERY, HANDLING, AND STORAGE

Package and protect materials during shipment. Uncrate and inspect materials for damage, dampness, and wet-storage stains upon delivery to the Project Site. Remove from the Site and replace damaged materials that cannot be restored to like-new condition. Handle sheet metal items to avoid damage to surfaces, edges, and ends. Store materials in dry, weather-tight, ventilated areas until installation.

PART 2 PRODUCTS

2.1 MATERIALS

Do not use lead, lead-coated metal, or galvanized steel. Use 316 stainless steel, unless otherwise indicated. Provide materials, thicknesses, and configurations in accordance with SMACNA 1793. Different items need not be of the same metal, except that contact between dissimilar metals must be avoided.

Furnish sheet metal items in 8 to 10 foot lengths. Single pieces less than 8 feet long may be used to connect to factory-fabricated inside and outside corners, and at ends of runs. Factory fabricate corner pieces with minimum 12 inch legs. Provide accessories and other items essential to complete the sheet metal installation. Provide accessories made of the same or compatible materials as the items to which they are applied. Fabricate sheet metal items of the materials specified below and to the gage, thickness, or weight shown in Table I at the end of this Section. Provide sheet metal items with mill finish unless specified otherwise.

Where more than one material is listed for a particular item in Table I, each is acceptable and may be used, except as follows:

2.1.1 Drainage

Do not use copper for an exposed item if drainage from that item will pass over exposed masonry, stonework or other metal surfaces.

2.1.2 Steel Sheet, Zinc-Coated (Galvanized)

Provide in accordance with ASTM A653/A653M.

2.1.3 Stainless Steel

Provide in accordance with ASTM A480/A480M, Type 302 or 304, 2D Finish, fully annealed, dead-soft temper.

2.1.4 Aluminum Alloy Sheet and Plate

Provide in accordance with ASTM B209 form alloy, and temper appropriate for use. Provide material not less than 0.065-in in thickness.

2.1.4.1 Alclad

When fabricated of aluminum, fabricate the following items with Alclad 3003, Alclad 3004, or Alclad 3005, clad on one side unless otherwise indicated.

a. Flashing

2.1.5 Finishes

Provide exposed exterior sheet metal and aluminum with a baked on, factory applied color coating of polyvinylidene fluoride (PVF2) or approved equal fluorocarbon coating. Dry film thickness of coatings must be 0.8 to 1.3 mils. Color to be selected from as indicated on the Drawings. Field applications of color coatings are prohibited and will be rejected.

2.1.6 Aluminum Alloy, Extruded Bars, Rods, Shapes, and Tubes

ASTM B221.

2.1.7 Solder

Provide in accordance with ASTM B32, 95-5 tin-antimony.

2.1.8 Fasteners

Use the same metal as, or a metal compatible with the item fastened. Use stainless steel fasteners to fasten dissimilar metals. Confirm compatibility of fasteners and items to be fastened to avoid galvanic corrosion due to dissimilar materials.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Workmanship

Make lines and angles sharp and true. Free exposed surfaces from visible wave, warp, buckle, and tool marks. Fold back exposed edges neatly to form a 1/2 inch hem on the concealed side. Make sheet metal exposed to the weather watertight with provisions for expansion and contraction.

Make surfaces to receive sheet metal plumb and true, clean, even, smooth, dry, and free of defects and projections. For installation of items not shown in detail or not covered by Specifications conform to the applicable requirements of SMACNA 1793, Architectural Sheet Metal Manual. Provide sheet metal flashing in the angles formed where roof decks abut walls, curbs, ventilators, pipes, or other vertical surfaces and wherever indicated and necessary to make the Work watertight. Join sheet metal items together as shown in Table II.

3.1.2 Nailing

Confine nailing of sheet metal generally to sheet metal having a maximum width of 18 inches. Confine nailing of flashing to one edge only. Space nails evenly not over 3 inch on center and approximately 1/2 inch from edge unless otherwise specified or indicated. Face nailing will not be permitted. Where sheet metal is applied to other than wood surfaces, include in Shop Drawings, the locations for sleepers and nailing strips required to secure the Work. Secure flashing at one-half the normal interval to ensure a wind-resistant installation.

3.1.3 Cleats

Provide cleats for sheet metal 18 inches and over in width. Space cleats evenly not over 12 inches on center unless otherwise specified or indicated. Unless otherwise specified, provide cleats of 2 inches wide by 3 inches long and of the same material and thickness as the sheet metal being installed. Secure one end of the cleat with two nails and the cleat folded back over the nailheads. Lock the other end into the seam. Where the fastening is to be made to concrete or masonry, use screws and drive in expansion shields set in concrete or masonry. Pre-tin cleats for soldered seams.

3.1.4 Bolts, Rivets, and Screws

Install bolts, rivets, and screws where indicated or required. Provide compatible washers where required to protect surface of sheet metal and to provide a watertight connection. Provide mechanically formed joints in aluminum sheets 0.040 inches or less in thickness.

3.1.5 Seams

Straight and uniform in width and height with no solder showing on the face.

3.1.5.1 Flat-lock Seams

Finish not less than 3/4 inch wide.

3.1.5.2 Lap Seams

Finish soldered seams not less than one inch wide. Overlap seams not soldered, not less than 3 inches.

3.1.5.3 Loose-Lock Expansion Seams

Not less than 3 inches wide; provide minimum one inch movement within the joint. Completely fill the joints with the specified sealant, applied at not less than 1/8 inch thick bed.

3.1.5.4 Standing Seams

Not less than one inch high, double locked without solder.

3.1.5.5 Flat Seams

Make seams in the direction of the flow.

3.1.6 Soldering

Where soldering is specified, apply to copper, terne-coated stainless steel, zinc-coated steel, and stainless steel items. Pre-tin edges of sheet metal before soldering is begun Seal the joints in aluminum sheets of 0.040 inch or less in thickness with specified sealants. Do not solder aluminum.

3.1.6.1 Edges

Flux brush the seams in before soldering. Treat with soldering acid flux the edges of stainless steel to be pre-tinned. Seal the joints in aluminum sheets of 0.040 inch or less in thickness with specified sealants. Do not solder aluminum.

3.1.7 Welding and Mechanical Fastening of Aluminum

Use welding for aluminum of thickness greater than 0.040 inch. Aluminum 0.040 inch or less in thickness must be butted and the space backed with formed flashing plate; or lock joined, mechanically fastened, and filled with sealant as recommended by the aluminum manufacturer.

3.1.7.1 Welding of Aluminum

Use welding of the inert gas, shield-arc type. For procedures, appearance and quality of welds, and the methods used in correcting welding work, conform to AWS D1.2/D1.2M.

3.1.7.2 Mechanical Fastening of Aluminum

Use No. 12, aluminum alloy, sheet metal screws or other suitable aluminum alloy or stainless steel fasteners. Drive fasteners in holes made with a No. 26 drill in securing side laps, end laps, and flashings. Space fasteners 12 inches maximum on center. Where end lap fasteners are required to improve closure, locate the end lap fasteners not more than 2 inches from the end of the overlapping sheet.

3.1.8 Protection from Contact with Dissimilar Materials

3.1.8.1 Aluminum

Do not allow aluminum surfaces in direct contact with other metals except stainless steel, zinc, or zinc coating. Where aluminum contacts another metal, paint the dissimilar metal with a primer followed by two coats of aluminum paint. Where drainage from a dissimilar metal passes over aluminum, paint the dissimilar metal with a non-lead pigmented paint. Aluminum may be used over concrete construction, provided that required reglets are of stainless steel and aluminum surface in contact with concrete or masonry is coated with bituminous paint or zinc chromate primer.

3.1.8.2 Metal Surfaces

Paint surfaces in contact with mortar, concrete, or other masonry materials with alkali-resistant coatings such as heavy-bodied bituminous paint.

3.1.8.3 Wood or Other Absorptive Materials

Paint surfaces that may become repeatedly wet and in contact with metal with two coats of aluminum paint or a coat of heavy-bodied bituminous paint.

3.1.9 Expansion and Contraction

Provide expansion and contraction joints at not more than 32 foot intervals for aluminum and at not more than 40 foot intervals for other metals. Provide an additional joint where the distance between the last expansion joint and the end of the continuous run is more than half the required interval. Space joints evenly.

3.1.10 Base Flashing

Extend up vertical surfaces of the flashing not less than 8 inches and not less than 4 inches under the roof covering. Where finish wall coverings form a counterflashing, extend the vertical leg of the flashing up behind the applied wall covering not less than 6 inches. Overlap the flashing strips with the previously laid flashing not less than 3 inches. Fasten the strips at their upper edge to the deck. Horizontal flashing at vertical surfaces must extend vertically above the roof surface and fastened at their upper edge to the deck a minimum of 6 inches on center with a minimum of 2 inch lap of any surface. Solder end laps and provide for expansion and contraction. Extend the metal flashing over crickets at the up-slope side of vertical surfaces extending through sloping roofs, the metal flashings. Extend the metal flashings onto the roof covering not less than 4.5 inches at the lower side of vertical surfaces extending through the roof decks. Install and fit the flashings so as to be completely weathertight. Provide factory-fabricated base flashing for interior and exterior corners. Do not use metal base flashing on built-up roofing.

3.1.11 Counterflashing

Except where indicated or specified otherwise, insert counterflashing in reglets located from 9 to 10 inches above roof decks, extend down vertical surfaces over upturned vertical leg of base flashings not less than 3

inches. Fold the exposed edges of counterflashings 1/2 inch. Where stepped counterflashings are required, they may be installed in short lengths a minimum 8 inches by 8 inches or may be of the preformed single piece type. Provide end laps in counterflashings not less than 3 inches and make it weathertight with plastic cement. Do not make lengths of metal counterflashings exceed 10 feet. Form flashings to the required shapes before installation. Factory form corners not less than 12 inches from the angle. Secure the flashings in the reglets with wedges and space not more than 18 inches apart; on short runs, place wedges closer together. Fill caulked-type reglets or raked joints which receive counterflashing with caulking compound. Turn up the concealed edge of counterflashings built into masonry or concrete walls not less than 1/4 inch and extend not less than 2 inches into the walls. Install counterflashing to provide a spring action against base flashing.

3.1.12 Metal Drip Edges

Provide a metal drip edge, designed to allow water run-off to drip free of underlying construction, at eaves and rakes prior to the application of roofing shingles. Apply directly on the wood deck at the eaves and over the underlay along the rakes. Extend back from the edge of the deck not more than 3 inches and secure with compatible nails spaced not more than 10 inches on center along upper edge.

3.2 PAINTING

Touch ups in the field may be applied only after metal substrates have been cleaned and pretreated in accordance with manufacturer's written instructions and products.

Field-paint sheet metal for separation of dissimilar materials.

3.2.1 Aluminum Surfaces

Clean with solvent and apply one coat of zinc-molybdate primer and one coat of aluminum paint.

3.3 CLEANING

Clean exposed sheet metal work at completion of installation. Remove grease and oil films, handling marks, contamination from steel wool, fittings and drilling debris, and scrub-clean. Free the exposed metal surfaces of dents, creases, waves, scratch marks, and solder or weld marks.

3.4 REPAIRS TO FINISH

Scratches, abrasions, and minor surface defects of finish may be repaired in accordance with the manufacturer's printed instructions and as approved. Repair damaged surfaces caused by scratches, blemishes, and variations of color and surface texture. Replace items which cannot be repaired.

-- End of Section --

SECTION 07 92 00

JOINT SEALANTS
11/21

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM C1193	(2013) Standard Guide for Use of Joint Sealants
ASTM C1311	(2014) Standard Specification for Solvent Release Agents
ASTM C1521	(2013) Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints
ASTM C509	(2015; R 2019) Low-Temperature Flexibility of Latex Sealants After Artificial Weathering
ASTM C920	(2018) Standard Specification for Elastomeric Joint Sealants
ASTM D1056	(2014) Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Sealants

Primers

Bond Breakers

Backstops

SD-06 Test Reports

Field Adhesion Test

1.3 PRODUCT DATA

Include storage requirements, shelf life, curing time, instructions for

mixing and application, and accessories. Provide manufacturer's Safety Data Sheets (SDS) for each solvent, primer and sealant material proposed.

1.4 ENVIRONMENTAL CONDITIONS

Apply sealant when the ambient temperature is between 40 and 90 degrees F.

1.5 DELIVERY AND STORAGE

Deliver materials to the Project Site in unopened manufacturers' sealed shipping containers, with brand name, date of manufacture, color, and material designation clearly marked thereon. Label elastomeric sealant containers to identify type, class, grade, and use. Handle and store materials in accordance with manufacturer's printed instructions. Prevent exposure to foreign materials or subjection to sustained temperatures exceeding 90 degrees F or lower than 0 degrees F. Keep materials and containers closed and separated from absorptive materials such as wood and insulation.

1.6 QUALITY CONTROL

1.6.1 Compatibility with Substrate

Verify that each sealant is compatible for use with each joint substrate in accordance with sealant manufacturer's printed recommendations for each application.

1.6.2 Joint Tolerance

Provide joint tolerances in accordance with manufacturer's printed instructions.

1.6.3 Mock-Up

Provide a mock-up of each type of sealant using materials, colors, and techniques approved for use on the Project. Approved mock-ups may be incorporated into the Work.

1.6.4 Adhesion

Provide in accordance with ASTM C1193 or ASTM C1521.

PART 2 PRODUCTS

2.1 SEALANTS

Provide sealant products that have been tested, found suitable, and documented as such by the manufacturer for the particular substrates to which they will be applied.

2.1.1 Interior Sealants

2.1.1.1 Types and Colors

Provide ASTM C920, Type S or M, Grade NS, Class 12.5, Use NT. Location(s) and color(s) of sealant for the following. Note, color "as selected" refers to manufacturer's full range of color options

LOCATION	COLOR
a. Small voids between walls or partitions and adjacent lockers, casework, shelving, door frames, built-in or surface mounted equipment and fixtures, and similar items.	As selected
b. Perimeter of frames at doors, windows, and access panels which adjoin exposed interior concrete and masonry surfaces.	As selected
c. Joints of interior masonry walls and partitions which adjoin columns, pilasters, concrete walls, and exterior walls unless otherwise detailed.	As selected
d. Interior locations, not otherwise indicated or specified, where small voids exist between materials specified to be painted.	As selected

2.1.2 Exterior Sealants

For joints in vertical surfaces, provide ASTM C920, Type S or M, Grade NS, Class 25, Use NT. For joints in horizontal surfaces, provide ASTM C920, Type S or M, Grade P, Class 25, Use T. Provide location(s) and color(s) of sealant as follows. Note, color "as selected" refers to manufacturer's full range of color options:

LOCATION	COLOR
a. Joints and recesses formed where frames and subsills of windows, doors, louvers, and vents adjoin masonry, concrete, or metal frames. Use sealant at both exterior and interior surfaces of exterior wall penetrations.	As selected
b. Metal-to-metal joints where sealant is indicated or specified.	As selected

2.2 PRIMERS

Non-staining, quick drying type and consistency as recommended by the sealant manufacturer for the particular application. Provide primers for interior applications that meet the indoor air quality requirements of the paragraph SEALANTS above.

2.3 BOND BREAKERS

Type and consistency as recommended by the sealant manufacturer to prevent adhesion of the sealant to the backing or to the bottom of the joint. Provide bond breakers for interior applications that meet the indoor air quality requirements of the paragraph SEALANTS above.

2.4 BACKSTOPS

Provide glass fiber roving, neoprene, butyl, polyurethane, or polyethylene foams free from oil or other staining elements as recommended by sealant

manufacturer. Provide 25 to 33 percent oversized backing for closed cell , unless otherwise indicated. Provide backstop material that is compatible with sealant. Do not use oakum or other types of absorptive materials as backstops.

2.4.1 Rubber

Provide in accordance with ASTM D1056, Type 2, closed cell, Class A .

2.4.2 Synthetic Rubber

Provide in accordance with ASTM C509, Option I , Type I preformed rods for synthetic rubber backing.

2.4.3 Neoprene

Provide in accordance with ASTM D1056, closed cell expanded neoprene cord Type 2, Class C, Grade 2C2 for neoprene backing.

2.4.4 Butyl Rubber Based

Provide in accordance with ASTM C1311, from a single component, with solvent release..

2.4.5 Silicone Rubber Base

Provide in accordance with ASTM C920, from a single component, with solvent release, Non-sag.

2.5 CLEANING SOLVENTS

Provide type(s) recommended by the sealant manufacturer and in accordance with environmental requirements herein. Protect adjacent aluminum and bronze surfaces from solvents. Provide solvents for interior applications that meet the indoor air quality requirements of the paragraph SEALANTS above.

PART 3 EXECUTION

3.1 FIELD ADHESION TEST

Perform a field adhesion test in accordance with manufacturer's instructions and ASTM C1193, Method A or ASTM C1521, Method A, Tail Procedure. Remove sealants that fail adhesion testing; clean substrates, reapply sealants, and re-test. Test sealants adjacent to failed sealants. Submit field adhesion test report indicating tests, locations, dates, results, and remedial actions taken.

3.2 SURFACE PREPARATION

Prepare surfaces according to manufacturer's printed installation instructions. Clean surfaces from dirt, frost, moisture, grease, oil, wax, lacquer, paint, or other foreign matter that would destroy or impair adhesion. Remove oil and grease with solvent; thoroughly remove solvents prior to sealant installation. Wipe surfaces dry with clean cloths. When resealing an existing joint, remove existing caulk or sealant prior to applying new sealant. For surface types not listed below, provide in accordance with sealant manufacturer's printed instructions for each specific surface.

3.2.1 Steel Surfaces

Remove loose mill scale by sandblasting or, if sandblasting is impractical or would damage finished Work, scraping and wire brushing. Remove protective coatings by sandblasting or using a residue free solvent. Remove resulting debris and solvent residue prior to sealant installation.

3.2.2 Aluminum or Bronze Surfaces

Remove temporary protective coatings from surfaces that will be in contact with sealant. When masking tape is used as a protective coating, remove tape and any residual adhesive prior to sealant application. For removing protective coatings and final cleaning, use non-staining solvents recommended by the manufacturer of the item(s) containing aluminum or bronze surfaces.

3.2.3 Concrete and Masonry Surfaces

Where surfaces have been treated with curing compounds, oil, or other such materials, remove materials by sandblasting or wire brushing. Remove laitance, efflorescence and loose mortar from the joint cavity. Remove resulting debris prior to sealant installation.

3.2.4 Wood Surfaces

Ensure wood surfaces that will be in contact with sealants are free of splinters, sawdust and other loose particles.

3.3 SEALANT PREPARATION

Do not add liquids, solvents, or powders to sealants. Mix multicomponent elastomeric sealants in accordance with manufacturer's printed instructions.

3.4 APPLICATION

3.4.1 Joint Width-To-Depth Ratios

Acceptable Ratios:

JOINT WIDTH	JOINT DEPTH	
	Minimum	Maximum
For metal, glass, or other nonporous surfaces:		
1/4 inch (minimum)	1/4 inch	1/4 inch
over 1/4 inch	1/2 of width	Equal to width
For wood, concrete, masonry, stone:		
1/4 inch (minimum)	1/4 inch	1/4 inch

JOINT WIDTH	JOINT DEPTH	
	Minimum	Maximum
over 1/4 inch to 1/2 inch	1/4 inch	Equal to width
over 1/2 inch to 1 inch	1/2 inch	5/8 inch
Over 1 inch	prohibited	

Unacceptable Ratios: Where joints of acceptable width-to-depth ratios have not been provided, clean out joints to acceptable depths and grind or cut to acceptable widths without damage to the adjoining Work. Grinding is prohibited at metal surfaces.

3.4.2 Unacceptable Sealant Use

Do not install sealants in lieu of other required building enclosure weatherproofing components such as flashing, drainage components, and joint closure accessories, or to close gaps between walls, floors, roofs, windows, and doors, that exceed acceptable installation tolerances. Remove sealants that have been used in an unacceptable manner and correct building enclosure deficiencies to comply with Contract Documents requirements.

3.4.3 Masking Tape

Place masking tape on the finished surface on one or both sides of joint cavities to protect adjacent finished surfaces from primer or sealant smears. Remove masking tape within 10 minutes of joint filling and tooling.

3.4.4 Backstops

Provide backstops dry and free of tears or holes. Tightly pack the back or bottom of joint cavities with backstop material to provide joints in specified depths. Provide backstops where indicated and where backstops are not indicated but joint cavities exceed the acceptable maximum depths specified in JOINT WIDTH-TO-DEPTH RATIOS Table.

3.4.5 Primer

Clean out loose particles from joints immediately prior to application of. Apply primer to joints in concrete masonry units, wood, and other porous surfaces in accordance with sealant manufacturer's printed instructions. Do not apply primer to exposed finished surfaces.

3.4.6 Bond Breaker

Provide bond breakers to surfaces not intended to bond in accordance with, sealant manufacturer's printed instructions for each type of surface and sealant combination specified.

3.4.7 Sealants

Provide sealants compatible with the material(s) to which they are applied. Do not use a sealant that has exceeded its shelf life or has jelled and cannot be discharged in a continuous flow from the sealant

gun. Apply sealants in accordance with the manufacturer's printed instructions with a gun having a nozzle that fits the joint width. Work sealant into joints so as to fill the joints solidly without air pockets. Tool sealant after application to ensure adhesion. Apply sealant uniformly smooth and free of wrinkles. Upon completion of sealant application, roughen partially filled or unfilled joints, apply additional sealant, and tool smooth as specified. Apply sealer over sealants in accordance with the sealant manufacturer's printed instructions.

3.5 PROTECTION AND CLEANING

3.5.1 Protection

Protect areas adjacent to joints from sealant smears. Masking tape may be used for this purpose if removed 5 to 10 minutes after the joint is filled and no residual tape marks remain.

3.5.2 Final Cleaning

Upon completion of sealant application, remove remaining smears and stains and leave the Work in a clean and neat condition.

a. Masonry and Other Porous Surfaces: Immediately remove fresh sealant that has been smeared on adjacent masonry, rub clean with a solvent, and remove solvent residue, in accordance with sealant manufacturer's printed instructions. Allow excess sealant to cure for 24 hour then remove by wire brushing or sanding. Remove resulting debris.

b. Metal and Other Non-Porous Surfaces: Remove excess sealant with a solvent moistened cloth. Remove solvent residue in accordance with solvent manufacturer's printed instructions.

-- End of Section --

SECTION 08 44 00

CURTAIN WALL AND GLAZED ASSEMBLIES
05/19

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.

ALUMINUM ASSOCIATION (AA)

AA ADM	(2020) Aluminum Design Manual
AA ASD1	(2017; Errata 2017) Aluminum Standards and Data

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 501	(2015) Methods of Test for Exterior Walls
AAMA 501.1	(2017) Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
AAMA 501.2	(2015) Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls and Sloped Glazing Systems
AAMA 501.4	(2018) Recommended Static Test Method for Evaluating Window Wall, Curtain Wall and Storefront Systems Subjected to Seismic and Wind-Induced Inter-Story Drift
AAMA 501.5	(2007) Test Method for Thermal Cycling of Exterior Walls
AAMA 501.6	(2018) Recommended Dynamic Test Method for Determining the Seismic Drift Causing Glass Fallout from Window Wall, Curtain Wall and Storefront Systems
AAMA 501.7	(2017) Recommended Static Test Method for Evaluating Windows, Window Wall, Curtain Wall and Storefront Systems Subjected to Vertical Inter-Story Movements
AAMA 609 & 610	(2015) Cleaning and Maintenance Guide for Architecturally Finished Aluminum
AAMA 800	(2016) Voluntary Specifications and Test Methods for Sealants
AAMA 1503	(2009) Voluntary Test Method for Thermal

	Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections
AAMA 2605	(2020) Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
AAMA CW-10	(2015) Care and Handling of Architectural Aluminum from Shop to Site
AAMA MCWM-1	(1989) Metal Curtain Wall Manual
AAMA/WDMA/CSA 101/I.S.2/A440	(2017) North American Fenestration Standard/Specification for Windows, Doors, and Skylights

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISC/AISI 121	(2007) Standard Definitions for Use in the Design of Steel Structures
AISI SG03-3	(2002; Suppl 2001-2004; R 2008) Cold-Formed Steel Design Manual Set

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 7-16	(2017; Errata 2018; Supp 1 2018) Minimum Design Loads and Associated Criteria for Buildings and Other Structures

AMERICAN WELDING SOCIETY (AWS)

AWS A5.1/A5.1M	(2012) Specification for Carbon Steel Electrodes for Shielded Metal Arc Welding
AWS A5.10/A5.10M	(2021) Welding Consumables - Wire Electrodes, Wires and Rods for Welding of Aluminum and Aluminum-Alloys - Classification
AWS D1.1/D1.1M	(2020; Errata 1 2021) Structural Welding Code - Steel

ASTM INTERNATIONAL (ASTM)

ASTM A27/A27M	(2020) Standard Specification for Steel Castings, Carbon, for General Application
ASTM A36/A36M	(2019) Standard Specification for Carbon Structural Steel
ASTM A47/A47M	(1999; R 2018; E 2018) Standard Specification for Ferritic Malleable Iron Castings
ASTM A123/A123M	(2017) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

ASTM A153/A153M	(2016a) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A240/A240M	(2020a) Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
ASTM A283/A283M	(2013) Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A501/A501M	(2021) Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing
ASTM A653/A653M	(2020) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A1011/A1011M	(2018a) Standard Specification for Steel Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
ASTM B136	(1984; R 2013) Standard Method for Measurement of Stain Resistance of Anodic Coatings on Aluminum
ASTM B137	(1995; R 2021) Standard Test Method for Measurement of Coating Mass Per Unit Area on Anodically Coated Aluminum
ASTM B209	(2014) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B211/B211M	(2019) Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire
ASTM B221	(2021) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B244	(2009; R 2021) Standard Method for Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments
ASTM B308/B308M	(2010; R 2020) Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles
ASTM B316/B316M	(2020) Standard Specification for Aluminum

	and Aluminum-Alloy Rivet and Cold-Heading Wire and Rods
ASTM B429/B429M	(2010; E 2012) Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube
ASTM C542	(2005; R 2017) Standard Specification for Lock-Strip Gaskets
ASTM C864	(2005; R 2015) Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers
ASTM C920	(2018) Standard Specification for Elastomeric Joint Sealants
ASTM C1087	(2016) Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems
ASTM C1135	(2015) Standard Test Method for Determining Tensile Adhesion Properties of Structural Sealants
ASTM C1184	(2014) Standard Specification for Structural Silicone Sealants
ASTM C1363	(2019) Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus
ASTM C1401	(2014) Standard Guide for Structural Sealant Glazing
ASTM D1730	(2009; R 2020) Standard Practices for Preparation of Aluminum and Aluminum-Alloy Surfaces for Painting
ASTM D2244	(2016) Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
ASTM D4214	(2007; R 2015) Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films
ASTM E90	(2009; R2016) Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
ASTM E283	(2019) Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure

	Differences Across the Specimen
ASTM E330/E330M	(2014; R 2021) Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E331	(2000; R 2016) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E546	(2014; R 2020) Standard Test Method for Frost Point of Sealed Insulating Glass Units
ASTM E576	(2014; R 2020) Standard Test Method for Frost Point of Sealed Insulating Glass Units in the Vertical Position
ASTM E783	(2002; R 2018) Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors
ASTM E1105	(2015) Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference
ASTM E1332	(2016) Standard Classification for Rating Outdoor-Indoor Sound Attenuation
ASTM E1886	(2019) Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
ASTM E1996	(2017) Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes
ASTM E3061	(2017) Standard Test Method for Analysis of Aluminum and Aluminum Alloys by Inductively Coupled Plasma Atomic Emission Spectrometry (Performance-Based Method)

NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM)

NAAMM AMP 500	(2006) Metal Finishes Manual

NATIONAL FENESTRATION RATING COUNCIL (NFRC)

NFRC 100	(2020) Procedure for Determining Fenestration Product U-Factors

NFRC 200	(2020) Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence

SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC 7/NACE No.4	(2007) Brush-Off Blast Cleaning
SSPC SP 1	(2015) Solvent Cleaning
SSPC SP 3	(2018) Power Tool Cleaning
SSPC SP 12/NACE No.5	(2002) Surface Preparation and Cleaning of Metals by Waterjetting Prior to Recoating

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Glazed Curtain Wall System;

Installation Drawings

SD-03 Product Data

Glazed Curtain Wall System;

Metals For Fabrication;

Metal Accessories;

Curtain-Wall Framing Members;

Sample Warranties;

SD-05 Design Data

Pigmented Organic Coating;

Seismic Calculations;

Structural Calculations for Deflection;

SD-06 Test Reports

Field Water Spray Test Results;

Air Infiltration Test Results;

Water Penetration Test Results;

SD-07 Certificates

Energy Performance Certificates;

Qualifications for the Curtain-Wall Installer;

SD-08 Manufacturer's Instructions

Glazed Curtain Wall System;

Insulating Glass;

Preventive Maintenance and Inspection;

SD-11 Closeout Submittals

Warranty;

1.3 QUALITY ASSURANCE

1.3.1 Qualification of Welders

Welding must be performed by certified welders qualified in accordance with AWS D1.1/D1.1M using procedures, materials, and equipment of the type required for the work.

1.3.2 Qualifications for the Curtain-Wall Installer

Submit a written description of the proposed curtain-wall system installer giving the name of the curtain-wall manufacturer, qualifications of personnel, years of concurrent contracting experience, lists of projects similar in scope to the specified work. Installer must be approved by the Manufacturer as a Certified Installer and have a minimum of 5 years experience installing curtain wall systems, and have completed projects similar in size to this project.

1.3.3 Testing Requirements

The components listed below must be tested in accordance with the requirements below, and meet performance requirements specified.

a. Joint and Glazing Sealants: Perform tests as required by applicable publications referenced.

b. Preformed Compression Gaskets and Seals: ASTM C864.

c. Preformed Lock-strip Gaskets: ASTM C542, modified as follows: Heat age specimens seven days at 158 degrees F, in zipped or locked position under full design compression. Unzip, cool for one hour, re-zip, and test lip seal pressure, which must be minimum 2.5 pounds per linear inch on any extruded or corner specimen.

d. Anodized Finishes: Stain resistance, coating weight, and coating thickness tests, ASTM B136, ASTM B137, and ASTM B244, respectively.

e. Insulating Glass: ASTM E546 or ASTM E576 at minus 20 degrees F, no frost or dew point.

1.3.4 Mockup

1.3.4.1 Construction

Construct at job site, manufacturer's plant or approved testing laboratory full size typical wall unit which incorporates horizontal and vertical joints, framing, window units, panels, glazing, and other accessories as detailed and specified. Mock-up wall unit size and design must be as indicated.

1.3.4.2 Performance Test

Conduct tests after approval of visual aspects has been obtained. Finished work must match approved mock-up.

1.3.4.3 Approved Mock-Up

After completion and approval of test results install, where directed, for reference during construction.

1.3.5 Factory Tests

Perform the following tests except that where a curtain wall system or component of similar type, size, and design as specified for this project has been previously tested, under the conditions specified herein, the resulting test reports may be submitted in lieu of testing the components listed below:

1.3.5.1 Deflection and Structural Tests

Curtain wall framing members must not deflect, in a direction normal to the plane of the wall, more than 1/175 of its clear span or 3/4 inch, whichever is less, when tested in accordance with ASTM E330/E330M. Framing members must not have a permanent deformation in excess of 0.2 percent of its clear span when tested in accordance with ASTM E330/E330M for a minimum test period of 10 seconds at 1.5 times the design wind pressures specified. Provide Structural Calculations for Deflection.

1.3.5.2 Water Penetration Test

a. Static: The test specimen shall be tested in accordance with ASTM E331. There shall be no leakage at a minimum static air pressure differential of 15 psf as defined in AAMA 501.

b. Dynamic: The test specimen shall be tested in accordance with AAMA 501.1. There shall be no leakage at an air pressure differential of 15 psf as defined in AAMA 501.

1.3.5.3 Air Infiltration Test

Maximum air leakage through fixed glazing and framing areas of 0.06 cfm/ft2 of fixed wall area as determined according to ASTM E283 at a minimum static-airpressure differential of 6.2 psf.

1.3.5.4 Sealant Adhesion and Compatibility Testing

ASTM C1401, submit to structural glazing sealant manufacturer, for testing indicated below. Samples of each glazing material type, tape sealant, gasket, glazing accessory, and glass-framing member that is in close

proximity to or is touching the structural or nonstructural sealants of a structural glazed system.

a. Compatibility: Test materials or components using ASTM C1087.

b. Adhesion: Test for adhesion or lack of adhesion of a structural sealant to the surface of another material or component using ASTM C1135.

c. Submit no fewer than 8 pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.

d. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.

e. For materials failing tests, obtain sealant manufacturer's written instructions for corrective measures, including the use of specially formulated primers.

f. Testing will not be required if data based on previous testing of current sealant products match those submitted.

1.3.5.5 Energy Performance Tests

Energy Performance Certificates for Glazed Aluminum Curtain Wall, Accessories, and Components from Manufacturer Confirming NFRC- Certified Energy Performance Values for Each Glazed Aluminum Curtain Wall.

The thermal transmittance of opaque panels must not exceed specified U-value, when tested in accordance with ASTM C1363. Certify and Label Energy Performance according to NFRC as follows:

a. Thermal Transmittance (U-factor): Thermal transmittance simulation results using NFRC 100 or AAMA 507 are based upon argon-filled 1" clear low-emissivity coated glass with warm edge spacer. For 1" glass with Center of Glass (COG) U-factor of 0.24 Btu/(hr·ft2·°F) and warm edge spacer, when simulated using NFRC 100 or AAMA 507, the thermal transmittance (Ufactor) shall not be more than 0.32 Btu/(hr·ft2·°F).

b. SHGC: Fixed glazing and framing areas as a system must have a SHGC of no greater than 0.40as determined according to NFRC 200.

c. Condensation Resistance Factor (CRF): Condensation resistance test results in accordance with AAMA 1503 are based upon argon-filled 1" or 1-3/4" clear low-emissivity coated glass with warm edge spacer. For 1" glass: When tested using AAMA 1503, the CRFframe and CRFglass shall not be less than 79 and 76 respectively.

1.3.5.6 Window Tests

Provide windows that meet the same requirements for deflection and structural adequacy as specified for framing members when tested in accordance with ASTM E330/E330M, except permanent deformation must not exceed 0.4 percent; there must be no glass breakage, and no permanent damage to fasteners, anchors, hardware, or operating devices. Provide windows that have no water penetration when tested in accordance with ASTM E331.

1.3.5.7 Noise Reduction

Test according to ASTM E90, with ratings determined by ASTM E1332, as follows: Outdoor-Indoor Transmission Class: Minimum 25. Sound Transmission Class: Minimum 31 .

1.4 FIELD TESTS

Testing must be performed by a testing agency regularly engaged in testing of architectural products, not affiliated with the curtain wall installer, and experienced with these test methods. Notify the Contracting Officer a minimum of seven calendar days prior to performing field tests.

1.4.1 Field Water Spray Tests

Engage a qualified testing agency to perform tests and inspection. Perform test on a representative area of glazed curtain wall. Perform water-spray test before interior finishes have begun, in accordance with AAMA 501.2. Test area must not show evidence of water penetration. Perform a minimum of 3 tests. Submit Field Water Spray Test Results.

1.4.2 Air Infiltration

ASTM E783 at 1.5 times the rate specified for laboratory testing under factory test paragraph, but not more than 0.09 cfm/sq.ft at a static air pressure differential of 6.24 lbf/sq.ft. Perform a minimum of 3 tests in representative areas. Submit Air Infiltration Test Results.

1.4.2.1 Water Penetration

ASTM E1105 at a minimum uniform and cyclic static-air-pressure differential of 0.67 times the static-air-pressure differential specified for laboratory testing in "Performance Requirements" Article, but not less than 8 lbf/sq. ft., and must not evidence water penetration. Submit Water Penetration Test Results.

1.5 GLAZED CURTAIN WALL SYSTEM REQUIREMENTS

Provide system complete with framing, mullions, trim, panels, windows, glass, glazing, sealants, insulation, fasteners, anchors, accessories, concealed auxiliary members, and attachment devices for securing the wall to the structure as specified or indicated.

Submit installation drawings for curtain wall system, accessories, and mock-up. Tentative approval of drawings must be received before fabrication of mock-up. Final approval of drawings will be deferred pending approval of mock-up and accessories. Drawings must indicate in detail all system parts including elevations, full-size sections, framing, jointing, panels, types and thickness of metal, flashing and coping details, field connections, weep and drainage system, finishes, sealing methods, glazing, glass sizes and details, firestopping insulation materials, and erection details.

1.5.1 Source

Furnish curtain wall system components by one manufacturer or fabricator; however, all components need not be products of the same manufacturer.

1.5.2 Design

Stick system with mullions, horizontal rails, and window units. Fully coordinate system accessories directly incorporated, and adjacent to contiguous related work and insure materials compatibility, deflection limitations, thermal movements, and clearances and tolerances as indicated or specified.

1.5.3 Tolerances

Design and erect wall system to accommodate tolerances in building frame and other contiguous work as indicated or specified. Provide with the following tolerances:

a. Maximum variation from plane or location shown on approved shop drawings: 1/8 inch per 12 feet of length up to not more than 1/2 inch in any total length.

b. Maximum offset from true alignment between two identical members abutting end to end in line: 1/16 inch.

1.5.4 Structural Requirements

Members may not deflect in a direction parallel to the plane of the wall, when carrying its full design load, more than an amount which will reduce the edge cover or glass bite below 75 percent of the design dimension. After deflection under full design load, members may not have a clearance between itself and the top of the panel, glass, sash, or other part immediately below it less than 1/8 inch. The clearance between the member and an operable window or door must be minimum 1/16 inch. Design entire system to withstand the indicated wind and concentrated loads, and the following wind loads acting normal to the plane of the wall:

a. On corner areas, extending five feet from the building corners on all stories, on all facades, the outward-acting (negative) design load must be increased to 42 pounds per square foot.

1.5.5 Seismic Calculations

When tested to AAMA 501.4 and AAMA 501.6, system must meet design displacement of 0.010 times the story height and ultimate displacement of 1.5 times the design displacement. Provide with the following tolerances:

a. Phase I: 3 stroke cycles using .005 times the story height - no damage or failure.

b. Phase II: 3 stroke cycles using .010 times the story height - no damage or failure.

1.5.6 Thermal Cycling and Vertical Inter-Story Movement Calculations

a. Thermal Cycling: AAMA 501.5. Repeat the Air Infiltration Test, ASTM E283, and the Water Penetration Test Under Static Pressure, ASTM E331.

b. Inter-Story Drift: AAMA 501.4 and AAMA 501.7 at 100 percent of design displacement. Repeat the Air Infiltration Test, ASTM E283 and the Water Penetrated Test Under Static Pressure, ASTM E331.

1.6 DELIVERY AND STORAGE

Inspect materials delivered to the site for damage; unload and store with a minimum of handling in accordance with recommendations contained in AAMA CW-10. Storage spaces must be dry locations with adequate ventilation, free from heavy dust, not subject to combustion products or sources of water, and must allow for easy access for inspection and handling. Deliver caulking and sealing compounds to the job site in sealed containers labeled to show the designated name, formula or specifications number; lot number; color; date of manufacturer; shelf life; and curing time when applicable.

1.6.1 Protective Covering

Prior to shipment from the factory, place knocked-down lineal members in cardboard containers and cover finished surfaces of aluminum with protective covering of adhesive paper, waterproof tape, or strippable plastic. Covering must not chip, peel, or flake due to temperature or weather, must protect against discoloration and surface damage from transportation, and storage, and must be resistant to alkaline mortar and plaster. Do not cover aluminum surfaces that will be in contact with sealants after installation.

1.6.2 Identification

Prior to delivery, mark wall components to correspond with shop and erection drawings placement location and erection.

1.7 WARRANTY

Guarantee insulating glass units not to develop material obstruction of vision as a result of dust or film formation on the inner glass surface caused by failure of the seal, other than through glass breakage, within a period of 5 years from date of acceptance of work by the Government. Replace units failing to comply with the terms of this guarantee with new units without additional cost to the Government. The Contractor must require the manufacturer to execute their warranties in writing directly to the Government.

1.7.1 Sample Warranties

Provide curtain wall and glazing assembly material and workmanship warranties meeting specified requirements. Provide revision or amendment to standard membrane manufacturer warranty to comply with the specified requirements.

a. Project Warranty: Refer to Section 01 11 00 SUMMARY OF WORK.

b. Manufacturer's Warranty: Submit, for acceptance, the Manufacturer's standard warranty document executed by authorized company official. The manufacturer's warranty is in addition to, and not a limitation of, other rights the Government may have under the Contract Documents.

c. Assembly Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of steel fire-rated glazed curtain-wall systems that do not comply with requirements or that deteriorate as defined in this Section within specified warranty period.

d. Finish Warranty: Manufacturer's standard form in which manufacturer

agrees to repair or replace components on which finishes fail within specified warranty period. Warranty does not include normal weathering. Deterioration includes, but is not limited to, color fading more than 5 Delta E units when tested according to ASTM D2244, chalking in excess of a No. 8 rating when tested according to ASTM D4214, cracking, peeling, or chipping.

e. Beneficiary: Issue warranty to the Government.

f. Warranty Period: 2 years commencing on Date of Substantial Completion, covering complete curtain wall system for failure to meet specified requirements.

g. Warranty Acceptance: Owner is sole authority who will determine acceptability of manufacturer's warranty documents.

1.8 INTERPRETATION OF AWS CODE

AWS code, when referred to herein, means AWS D1.1/D1.1M, "Structural Welding Code - Steel" with the following modification:

Revise AWS code Section 1, "General Provisions," Paragraph 1.1 as follows: References to the need for approval means "Approval by the Contracting Officer" and references to the "Building Commissioner" means the "Contracting Officer."

1.9 PERFORMANCE REQUIREMENTS

1.9.1 Wind-Borne Debris /Hurricane Performance Requirements

Provide impact resistant or protected curtain wall systems in buildings with an impact-resistant covering meeting the Windborne-Debris-Impact-Resistant Performance requirements of ASTM E1996 for project wind zone when tested in accordance with ASTM E1886, based upon testing of specimens not less than the size required for project and utilizing installation method identical to that specified for project as follows:

a. Project Wind Zone: Wind Zone 4.

b. Large-Missile Test: For glazing located within 30 feet of grade.

c. Small-Missile Test: For glazing located more than 30 feet above grade.

1.9.2 Allowable Design Stresses

Aluminum-alloy framing member allowable design stresses must be in accordance with the requirements of AA ADM pertaining to building type structures made of the specified aluminum alloy.

Hot-rolled structural-steel member allowable design stresses and design rules must be in accordance with the requirements of AISC/AISI 121 pertaining to the specified structural steel.

Cold-formed light-gage steel structural member allowable design stresses and design rules must be in accordance with the requirements of AISI SG03-3 SG570 pertaining to structural members formed from the specified structural-steel sheet or strip.

1.9.3 Design Wind Load

Design windload must be 42 pounds per square foot. Design windload must be in accordance with ASCE 7-16.

1.9.4 Structural Capacity

Design curtain-wall system, including framing members, windows, doors and frames, metal accessories, panels, and glazing to withstand the specified design windload acting normal to the plane of the curtain wall and acting either inward or outward.

Deflection of any metal framing member in a direction normal to the plane of the curtain wall, when subjected to the test of structural performance, using the specified windload in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, must not exceed 1/175 of the clear span of the member or 3/4 inch, whichever value is less.

Deflection of any metal member in a direction parallel to the plane of the curtain wall, when the metal member is carrying its full design load, must not exceed 75 percent of the design clearance dimension between that member and the glass, sash, panels, or other part immediately below it.

PART 2 PRODUCTS

Basis of design is Kawneer 1600UT System™1 Curtain Wall with 1 inch double glazed insulating glass.
a. Sight line: 5 inch (two 2.5 inch mullions combined)
b. Outside glazed custom pressure plate format
c. System depth: 4.75 inch plus custom pressure plate

2.1 MATERIALS

2.1.1 Aluminum

Must be free from defects impairing strength or durability of surface finish. Provide standard alloys conforming to standards and designations of AA ASD1. Special alloys, not covered by the following ASTM specifications, must conform to standards and designations recommended by the manufacturer for the purpose intended.

2.1.1.1 Wrought Aluminum Alloys

Must be those which include aluminum alloying elements not exceeding the following maximum limits when tested and additional in accordance with ASTM E3061. These limits apply to both bare products and the core of clad products. The cladding of clad products must be within the same limits except that the maximum zinc limit may be 2.5 percent in order to assure that the cladding is anodic to the core. Special wrought alloys with a silicon content not more than 7.0 percent will be acceptable for limited structural uses where special appearance is required:

ALLOY	MAXIMUM PERCENT
Silicon	1.5

ALLOY	MAXIMUM PERCENT
Magnesium, Manganese, and Chromium combined	6.0
Iron	1.0
Copper	0.4
Zinc	1.0

Within the chemical composition limits set forth above, wrought aluminum alloys must conform to the following:

a. Extruded bars, rods, shapes and tubes: ASTM B221 and ASTM B308/B308M and ASTM B429/B429M.

b. Sheet and Plate: ASTM B209.

2.1.1.2 Welding Rods and Electrodes

Provide welding rods and bare electrodes conforming to AWS A5.10/A5.10M as recommended by the manufacturer of the aluminum base metal alloy being used.

2.1.1.3 Strength

Aluminum extrusions for framing members used in curtain walls and main frame and sash or ventilator members in windows must have a minimum ultimate tensile strength of 22,000 psi and a minimum yield strength of 16,000 psi.

2.1.2 Stainless Steel

Conform to ASTM A240/A240M. Conform to Type 302 or 304, and finish in accordance with the NAAMM AMP 500. Conform to Metal Finishes Manual as follows:

a. Concealed flashings: Dead soft fully annealed, 2 D finish .

b. Exposed work: No. 4 finish to match approved sample.

2.1.3 Fasteners

Aluminum, nonmagnetic stainless steel or other materials must be non-corrosive and compatible with aluminum members, trim hardware, anchors, and other components. Provide fasteners as specified in paragraph entitled "Fastener Metals for Joining Various Metal Combinations" in "Part 2 - Products" of the AAMA MCWM-1. Metals for fasteners must be chemically and galvanically compatible with contiguous materials.

2.1.4 Anchors, Clips, and Accessories

Aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating. Anchors, clips, and accessories shall provide sufficient strength to withstand the design pressure indicated. Fabricate

accessories of sizes and shapes indicated from similar materials and finish as specified for wall system.

2.1.5 Pressure Plate

Pressure plate shall be aluminum or fiberglass. Pressure plate shall be fastened to the mullion with stainless steel screws. Fiberglass pressure plate shall be tested to ASTM D638, D790, D695, D953, D3846.

2.1.6 Reinforcing Members

Aluminum, nonmagnetic stainless steel, or nickel/chrome-plated steel complying with ASTM B 456 for Type SC 3 severe service conditions, or zinc-coated steel or iron complying with ASTM B 633 for SC 3 severe service conditions or other suitable zinc coating. Reinforcing members must provide sufficient strength to withstand the design pressure indicated.

2.1.7 Joint Sealants and Accessories

For sealants required within fabricated curtain wall system, provide permanently elastic, nonshrinking, and non-migrating type recommended by sealant manufacturer for joint size and movement. Provide manufacturer's standard colors to closely match adjacent surfaces.

2.1.7.1 Elastomeric, Single or Multiple Component

ASTM C920, Type S, single component, Type M, multiple component. Use Grade NS, nonsag type in joints on vertical surfaces and use Grade P, self-leveling or flow type, in joints on horizontal surfaces.

2.1.7.2 Single Component Silicone Rubber Base

ASTM C920, Type S, Grade NS (Silicone).

2.1.7.3 Solvents and Primers

Provide material which is quick drying, colorless, nonstaining, compatible with compound used, as recommended by sealant manufacturer. Where primer is specified or recommended by sealant manufacturer, manufacturer's data related to that material must include primer.

2.1.7.4 Structural Sealant

ASTM C1184 and ASTM C1401. Capable of withstanding tensile and shear stresses imposed by structural-sealant-glazed curtain walls without failing adhesively or cohesively. When tested for preconstruction adhesion and compatibility, cohesive failure of sealant must occur before adhesive failure. Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind. Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate, because sealant-to-substrate bond strength exceeds sealant's internal strength.

2.1.7.5 Backing Material

Provide material which is nonstaining, nonabsorbent, and compatible with sealing compound. Closed cell resilient urethane, polyvinylchloride or polyethylene foam; closed-cell sponge of vinyl or rubber; closed cell

neoprene or butyl rod; or polychloroprene tubes or beads.

2.1.7.6 Bond Preventive Materials

Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

2.1.7.7 Preformed Sealing Compound

Provide nonskinning type conforming to AAMA 800. Tapes, beads, ribbons or other shapes as required.

2.1.8 Thermal Barrier

Thermal barrier consists of 1" (25.4 mm) separation between the interior and exterior metal members in a typical condition. Thermal barrier assembly shall be tested to the thermal cycling requirements of ASTM E2692 and show no sign of degradation following the test.

2.1.9 Glass and Glazing

Materials are specified under Section 08 81 00 GLAZING.

2.1.10 Tolerances

References to tolerances for wall thickness and other cross-sectional dimensions of glazed curtain wall members are nominal and in compliance with AA Aluminum Standards and Data.

2.1.11 Bituminous Paint

Cold-applied asphalt-mastic paint. Complies with SSPC-Paint 12 requirements except containing no asbestos. Formulated for 30-mil thickness per coat

2.2 METALS FOR FABRICATION

2.2.1 Aluminum-Alloy Extrusions

Alloy and temper recommended by glazed aluminum curtain wall manufacturer for strength,corrosion resistance, and application of required finish. Not less than 0.070" wall thickness at any location for the main frame. Complying with ASTM B221: 6063-T6 alloy and temper.

2.2.2 Aluminum-Alloy Sheets and Plates

Shall meet the requirements of ASTM B209.

2.2.3 Structural Steel

Hot-rolled shapes, plates, and bars must conform to ASTM A36/A36M.

Hot-formed tubing must conform to ASTM A501/A501M.

Sheet and strip for cold-formed, light-gage, structural members must conform to ASTM A1011/A1011M.

2.2.4 Metals for Fasteners

Provide aluminum-alloy bolts and screws made from rod conforming to ASTM B211/B211M, Alloy 2024-T351.

Provide aluminum-alloy nuts made from rod conforming to ASTM B211/B211M, Alloy 6061-T6.

Provide aluminum-alloy washers made from sheet conforming to ASTM B209, ASTM B211/B211M, Alloy 2024-T4.

Provide aluminum-alloy rivets made from rod or wire conforming to ASTM B316/B316M, Alloy 6053-T61.

Provide steel fasteners made from corrosion-resistant chromium-nickel Type 302, 303, 304, 305, or 316 with the form and condition best suited for the work.

2.3 NONSKINNING SEALING COMPOUND

Sealing compound must be nonskinning, gun-grade type conforming to AAMA 800.

2.4 FABRICATION

Fabricate components that, when assembled, have the following characteristics:

a. Profiles that are sharp, straight, and free of defects or deformations
b. Accurately fitted joints
c. Physical and thermal isolation of glazing from framing members
d. Accommodations for thermal and mechanical movements of glazing and framing that maintain required glazing edge clearances
e. Provisions for field replacement of glazing from exterior
f. Fasteners, anchors, and connection devices that are concealed from view to the greatest extent possible
g. Internal weeping system or other means to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior
h. Double seal design with primary air and vapor barrier at interior side of glazed aluminum curtain wall and secondary seal weeped and vented to exterior

2.4.1 Workmanship

Metal Accessories must be accurately formed; joints, except those designed to accommodate movement, accurately fitted and rigidly assembled.

Insofar as practical, fitting and assembly of the work must be done in the manufacturer's plant. Mark work that cannot be permanently factory-assembled before shipment to ensure proper assembly at the site.

2.4.2 Shop-Painting Aluminum

Shop prime aluminum surfaces that will come in contact with dissimilar metals, masonry, concrete, or wood.

Prepare aluminum surfaces for painting in accordance with ASTM D1730, Type B, Method 2 or 3.

Give aluminum surfaces one shop coat of paint applied to dry, clean, surfaces to provide a continuous minimum dry-film thickness of 1.5 mils.

2.4.3 Shop-Painting Steel

Shop prime surfaces of concealed steel.

Remove scale, rust, and other deleterious materials. Remove heavy rust and loose mill scale in accordance with SSPC SP 3 or SSPC 7/NACE No.4. Remove oil, grease, and similar contaminants in accordance with SSPC SP 1.

Give steel surfaces two coats of paint; the second coat must have a color different from the first coat. Apply paint to dry, clean, surfaces to provide a continuous minimum dry-film thickness of 1.5 mils for the first coat and 1 mil for the second coat.

2.4.4 Depth of Glazing Rabbets

Depth of glazing rabbets for openings to receive glass materials or panels must be as follows:

MATERIAL	NOMINAL THICKNESS	MAXIMUM SIZE	MINIMUM RABBET DEPTH
Double-glazing units	All thicknesses	Up to 25 square feet	5/8 inch
	All thicknesses	25 to 70 square feet	3/4 inch

2.4.5 Pigmented Organic Coating

Curtain wall framing exposed to view to be a superior performing organic coating complying with AAMA 2605 Color: Guest House/Building #30 - Sherwin Williams SW7658 Gray Clouds; Recreation Center/Building #2 - Sherwin Williams SW6775 Briny

2.5 CURTAIN-WALL FRAMING MEMBERS

2.5.1 General

Framing members must be thermally broken and be the section dimensions and arrangement indicated and designed to accommodate windows, panels, and other materials to be incorporated into the curtain-wall system.

2.5.2 Construction

Manufacturer's standard extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.
Glazing System: Four-sided captured.
Glazing Plane: Front.

Glazing rabbet legs must be an integral part of the frame with the leg depth not less than the minimum depth specified for the thickness and size of the glass material or panel to be installed in the curtain-wall frame. Design and construct frames to receive window sash and louvers of the type specified when required.

Prepare vertical mullions for anchorage to the building construction at

the bottom, at each intermediate floor elevation, and at the top.

Fabricate components for assembly using shear block system following manufacturer's standard installation instructions.

2.6 METAL ACCESSORIES

2.6.1 Sills

Sills must be the shapes and dimensions indicated and fabricated of aluminum-alloy extrusions having a wall thickness not less than 0.125 inch.

Sills must run continuously under the curtain wall and permit the lower curtain wall frame member to interlock without fastenings.

2.6.2 Brackets and Reinforcements

Manufacturer's standard high-strength aluminum with non-staining, non-ferrous shims for aligning system components.

2.6.3 Fasteners and Accessories

Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories must be compatible with adjacent materials. Where exposed, fasteners and accessories shall be stainless steel.

2.6.4 Perimeter Anchors

When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

2.7 SEALANTS AND CAULKINGS

Shall be suitable for glazed aluminum curtain wall as recommended by sealant manufacturer.

2.8 CURTAIN-WALL INSTALLATION MATERIALS

2.8.1 Threaded Concrete Inserts

Galvanized ferrous castings with enlarged bases with not less than two nailing lugs, length as indicated, internally threaded 3/4-inch diameter machine bolt must conform to ASTM A47/A47M, Grade 32510 or ASTM A27/A27M, Grade U-60-30, and hot-dip galvanized in accordance with ASTM A153/A153M.

2.8.2 Wedge Concrete Inserts

Galvanized, box-type, ferrous castings with an integral loop at the back of the box and designed for 3/4-inch diameter bolts with wedge-shaped heads must conform to ASTM A47/A47M, Grade 32510 or ASTM A27/A27M, Grade U-60-30, and hot-dip galvanized in accordance with ASTM A153/A153M.

Carbon steel bolts with wedge-shaped heads, nuts, washers, and shims must be hot-dip galvanized in accordance with ASTM A153/A153M.

2.8.3 Slotted Concrete Inserts

Galvanized pressed-steel plate, welded construction, box type with a slot designed for 3/4-inch diameter square-head bolts to provide lateral

adjustment must be 1/8-inch minimum thickness, conforming to ASTM A283/A283M, Grade C, hot-dip galvanized in accordance with ASTM A123/A123M. Length of the insert body less anchorage lugs must be 6 inches minimum and provided with a knockout cover.

2.8.4 Toggle Bolts

Toggle bolts must be the tumble-wing type.

2.8.5 Steel Bolts, Nuts, and Washers

Bolts must be regular hexagon head, low-carbon steel.

Nuts must be hexagon, regular style, carbon steel.

Plain washers must be round, general-assembly purpose, carbon steel.

Lockwashers must be helical spring, carbon steel.

2.8.6 Machine Screws

Provide screws for concealed work that are corrosion-resistant steel, slotted or cross-recessed type, roundhead.

Provide screws for exposed-to-view work that are corrosion-resistant steel, cross-recessed, flathead.

2.8.7 Electrodes for Welding Steel

Electrodes for welding steel by the manual shielded metal arc welding process must meet the requirements of AWS D1.1/D1.1M and be covered mild-steel electrodes conforming to AWS A5.1/A5.1M, E60 series.

PART 3 EXECUTION

3.1 GENERAL

Install curtain walls and accessories in accordance with the approved drawings and as specified.

3.2 FABRICATION

Provide curtain wall components of the materials and thickness indicated or specified. The details indicated are representative of the required design and profiles. Acceptable designs may differ from that shown if the proposed system components conform to the limiting dimensions indicated and the requirements specified herein. Unless specifically indicated or specified otherwise, the methods of fabrication and assembly must be at the discretion of the curtain wall manufacturer. Perform fitting and assembling of components in the shop to the maximum extent practicable. Provide anchorage devices with adjustment capability in three directions. Exposed fastenings used on finished surfaces must be truss head, flat head, or oval head screws or bolts. Extrude or form aluminum shapes before finishing.

3.2.1 Joints

Provide welded or mechanical fasteners as indicated or specified. Match joints in exposed work to produce continuity of line and design.

Bed-joints or rabbets receiving caulking or sealing material must be minimum 3/4 inch deep and 3/8 inch wide at mid ambient temperature range.

3.2.2 Welding

Conform to AWS D1.1/D1.1M. Use methods and electrodes recommended by manufacturers of base metal alloys. Provide welding rods of an alloy that matches the color of the metal being welded. Protect glass and other finish from exposure to welding spatter. Ground and finish weld beads on exposed metal surfaces to minimize mismatch and to blend with finish on adjacent parent metal. If flux is used in welding aluminum, completely remove it immediately upon completion of welding operations. Do not use exposed welds on aluminum surfaces.

3.2.3 Soldering and Brazing

Provide as recommended by suppliers. Solder only for filling or sealing joints.

3.2.4 Ventilation and Drainage

Provide internal ventilation and drainage system of weeps based on principles of pressure equalization to ventilate the wall internally and to discharge condensation and water leakage to exterior as inconspicuously as possible. Flashings and other materials used internally must be nonstaining, noncorrosive, and nonbleeding.

3.2.5 Protection and Treatment of Metals

3.2.5.1 General

Remove from metal surfaces lubricants used in fabrication and clean off other extraneous material before leaving the shop.

3.2.5.2 Galvanic Action

Provide protection against galvanic action wherever dissimilar metals are in contact, except in the case of aluminum in permanent contact with galvanized steel, zinc, stainless steel, or relatively small areas of white bronze. Paint contact surfaces with one coat bituminous paint or apply appropriate caulking material or nonabsorptive, noncorrosive, and nonstaining tape or gasket between contact surfaces.

3.2.5.3 Protection for Aluminum

Protect aluminum which is placed in contact with, built into, or which will receive drainage from masonry, lime mortar, concrete, or plaster with one coat of alkali-resistant bituminous paint. Where aluminum is contacted by absorptive materials subject to repeated wetting or treated with preservative noncompatible with aluminum, apply two coats of aluminum paint, to such materials and seal joints with approved caulking compound.

3.3 INSTALLATION

With installer present, examine areas for compliance with requirements for installation tolerances and other conditions affecting performance of the work. Proceed with installation only after correcting unsatisfactory conditions.

Installation and erection of glazed wall system and all components must be performed under direct supervision of and in accordance with approved recommendations and instructions of wall system manufacturer or fabricator.

Any materials that show visual evidence of biological growth due to the presence of moisture must not be installed on the building project.

3.3.1 Bench Marks and Reference Points

Establish and permanently mark bench marks for elevations and building line offsets for alignment at convenient points on each floor level. Should any error or discrepancy be discovered in location of the marks, stop erection work in that area until discrepancies have been corrected.

3.3.2 Verifying Conditions and Adjacent Surfaces

After establishment of lines and grades and prior to system installation examine supporting structural elements. Verify governing dimensions, including floor elevations, floor to floor heights, minimum clearances between curtain wall and structural frames, and other permissible dimensional tolerances in the building frame.

3.3.3 Materials Embedded In Other Construction

Install materials to be embedded in cast-in-place concrete and masonry prior to the installation of the curtain wall. Provide setting drawings, templates, and instructions for installation.

3.3.4 Fastening To Construction-In-Place

Provide anchorage devices and fasteners for fastening work to construction-in-place. Provide fasteners as specified.

3.3.5 Field-Welding Steel And Touchup Painting

Procedures of manual shielded metal arc welding, the appearance and quality of the welds made, and the methods used in correcting welding work must conform to AWS D1.1/D1.1M.

After completion of welding, clean and paint field welds and scarred surfaces on steel work and on adjacent ferrous-metal surfaces. Paint must be the same as that used for shop painting.

3.3.6 Installation Tolerances

Install curtain wall systems plumb, level, and true to line, without warp or rack of frames, within manufacturer’s prescribed tolerances, and complying with installation instructions. Install curtain walls within the following tolerances:

Deviation in location from that indicated on the drawings	Plus or minus 1/4 inch
Deviation from the plumb or horizontal	

In 12 feet of length	Not more than 1/8 inch
In any total length	Not more than 1/2 inch
Offset from true alignment at joints between abutting members in line	Not more than 1/16 inch

3.3.7 Placing Curtain-Wall Framing Members

Install members plumb, level, and within the limits of the installation tolerances specified.

Connect members to building framing. Provide supporting brackets adjustments for the accurate location of curtain-wall components. Adjustable connections must be rigidly fixed after members have been positioned.

3.3.8 Windows

Install windows in accordance with details indicated and approved detail drawings.

3.3.8.1 Sealing

Seal exterior metal to metal joints between members of windows, frames, mullions, and mullion covers. Remove excess sealant.

3.3.8.2 Ventilators and Hardware

After installing and glazing windows, adjust ventilators and hardware to operate smoothly and to be weathertight when ventilators are closed and locked. Lubricate hardware and moving parts.

3.3.8.3 Weatherstripping

Install to make weathertight contact with frames when ventilators are closed and locked. Do not cause binding of sash or prevent closing and locking of ventilator.

Provide for ventilating sections of all windows to insure a weather-tight seal meeting the infiltration tests specified. Use easily replaceable factory-applied weatherstripping of manufacturer's stock type. Use molded vinyl, molded or molded-expanded neoprene for weatherstripping for compression contact surfaces. For sliding surfaces, use treated woven pile or wool, polypropylene or nylon pile with nylon fabric and metal or plastic backing strip weatherstripping. Do not use neoprene or polyvinyl chloride weatherstripping where they will be exposed to direct sun light.

3.3.9 Joint Sealants

3.3.9.1 Surface Preparation

Surfaces to be primed and sealed must be clean, dry to the touch, free from frost, moisture, grease, oil, wax, lacquer, paint, or other foreign matter. Enclose joints on three sides. Clean out grooves to proper depth. Joint dimensions must conform to approved detail drawings with a tolerance of plus 1/8 inch. Do not apply compound unless ambient temperature is between 40 and 90 degrees F. Clean out loose particles and

mortar just before sealing. Remove protective coatings or coverings from surfaces in contact with sealants before applying sealants or tapes. Solvents used to remove coatings must be of type that leave no residue on metals.

3.3.9.2 Applications

Match approved sample. Force compound into grooves with sufficient pressure to fill grooves solidly. Sealing compound must be uniformly smooth and free of wrinkles and, unless indicated otherwise, tooled and left sufficiently convex to result in a flush joint when dry. Do not trim edges of sealing material after joints are tooled. Mix only amount of multi-component sealant which can be installed within four hours, not to exceed 5 gallons at any given time.

3.3.9.3 Primer

Apply to masonry, concrete, wood, and other surfaces as recommended by sealant manufacturer. Do not apply primer to surfaces which will be exposed after caulking is completed.

3.3.9.4 Backing

Tightly pack in bottom of joints which are over 1/2 inch in depth with specified backing material to depth indicated or specified. Roll backing material of hose or rod stock into joints to prevent lengthwise stretching.

3.3.9.5 Bond Prevention

Install bond preventive material at back or bottom of joint cavities in which no backstop material is required, covering full width and length of joint cavities.

3.3.9.6 Protection and Cleaning

Remove compound smears from surfaces of materials adjacent to sealed joints as the work progresses. Use masking tape on each side of joint where texture of adjacent material will be difficult to clean. Remove masking tape immediately after filling joint. Scrape off fresh compound from adjacent surfaces immediately and rub clean with approved solvent. Upon completion of caulking and sealing, remove remaining smears, stains, and other soiling, and leave the work in clean neat condition.

3.3.10 Glass

Install in accordance with insulating glass manufacturer's recommendations as modified herein.

3.3.10.1 Inspection of Sash and Frames

Before installing glass, inspect sash and frames to receive glass for defects such as dimensional variations, glass clearances, open joints, or other conditions that will prevent satisfactory glass installation. Do not proceed with installation until defects have been corrected.

3.3.10.2 Preparation of Glass and Rabbets

Clean sealing surfaces at perimeter of glass and sealing surfaces of rabbets and stop beads before applying glazing compound, sealing compound,

glazing tape, or gaskets. Use only approved solvents and cleaning agents recommended by compound or gasket manufacturer.

3.3.10.3 Positioning Glass

Set glass from inside the building unless otherwise indicated or specified. Maintain specified edge clearances and glass bite at perimeter. Maintain position of glass in rabbet and provide required sealant thickness on both sides of glass. For glass dimensions larger than 50 united inches, provide setting blocks at sill and spacer shims on all four sides; locate setting blocks one quarter way in from each jamb edge of glass. Where setting blocks and spacer shims are set into glazing compound or sealant, butter with compound or sealant, place in position, and allow to firmly set prior to installation of glass.

3.3.10.4 Setting Methods

Apply glazing compound, glazing sealant, glazing tape, and gaskets uniformly with accurately formed corners and bevels. Remove excess compound from glass and sash. Use only recommended thinners, cleaners, and solvents. Strip surplus compound from both sides of glass and tool at slight angle to shed water and provide clean sight lines. Secure stop beads in place with suitable fastenings. Do not apply compound or sealant at temperatures lower than 40 degrees F, or on damp, dirty, or dusty surfaces. After glazing, fix ventilators in sash so they cannot be operated until compound or sealant has set.

3.3.10.5 Void Space

Heat absorbing, insulating, spandrel, and tempered glass, and glass of other types that exceed 100 united inches in size: Provide void space at head and jamb to allow glass to expand or move without exuding the sealant.

3.3.10.6 Insulating Glass

Provide adequate means to weep incidental water and condensation away from the sealed edges of insulated glass units and out of the wall system. The weeping of lock-strip gaskets must be in accordance with the recommendation of the glass manufacturer.

3.3.10.7 Insulating Glass With Edge Bands

Insulating glass with flared metal edge bands set in lock-strip type gaskets: Follow glass manufacturer's recommendations and add supplementary wet seal as required; when used with glazing tape, use tapered tape.

3.4 FINISHES

3.4.1 Galvanizing

Conform to ASTM A123/A123M, ASTM A153/A153M, and ASTM A653/A653M, as applicable.

3.4.1.1 Repair of Zinc-Coated Surfaces

Repair zinc coated surfaces damaged by welding or other means with galvanizing repair paint or by application of stick or thick paste material specifically designed for repair of galvanizing, as approved.

3.4.2 Shop Cleaning and Painting

3.4.2.1 Cleaning

Clean steel and iron work by power wire brushing or other approved manual or mechanical means, for removal of rust, loose paint, scale, and deleterious substances. Wash cleaned surfaces which become contaminated with rust, dirt, oil, grease, or other foreign matter, with solvents until thoroughly clean in accordance with SSPC SP 12/NACE No.5. Cleaning steel embedded in concrete is not required.

3.4.2.2 Painting Steel or Iron Surfaces

Apply one coat of primer. Apply additional shop coat of specified paint, to which a small amount of tinting material has been added, on surfaces that will be concealed in the finished construction or that will not be accessible for finish painting. Accomplish painting in dry weather or under cover, and on steel or iron surfaces that are free from moisture and frost. Do not paint surfaces of items to be embedded in concrete. Recoat damaged surfaces upon completion of work. Prime coat steel immediately after cleaning. Do not apply bituminous protective coatings to items to be finish painted.

3.5 FIELD TESTS

Notify the Contracting Officer a minimum of seven calendar days prior to performing field tests. Conduct field check test for water leakage on designated wall areas after erection. Conduct tests where directed. Perform water-spray test before interior finishes have begun, in accordance with AAMA 501.2. Conduct test and take necessary remedial action as described in AAMA 501.1.

3.6 CLEANING AND PROTECTION

3.6.1 General

At the completion of the installation, clean the work to remove mastic smears and other foreign materials.

3.6.2 Manufacturer's Information

Preventive Maintenance and Inspection must consist of the aluminum manufacturer's recommended cleaning materials and application methods, including detrimental effects to the aluminum finish when improperly applied.

3.6.3 Glass

Upon completion of wall system installation, thoroughly wash glass surfaces on both sides and remove labels, paint spots, putty, compounds, and other defacements. Replace cracked, broken, and defective glass with new glass at no additional cost to the Government.

3.6.4 Aluminum Surfaces

Protection methods, cleaning, and maintenance must be in accordance with AAMA 609 & 610.

3.6.5 Other Metal Surfaces

After installation, protect windows, panels, and other exposed surfaces from disfiguration, contamination, contact with harmful materials, and from other construction hazards that will interfere with their operation, or damage their appearance or finish. Protection methods must be in accordance with recommendations of product manufacturers or of the respective trade association. Remove paper or tape factory applied protection immediately after installation. Clean surfaces of mortar, plaster, paint, smears of sealants, and other foreign matter to present neat appearance and prevent fouling of operation. In addition, wash with a stiff fiber brush, soap and water, and thoroughly rinse. Where surfaces become stained or discolored, clean or restore finish in accordance with recommendations of product manufacturer or the respective trade association.

3.7 INSPECTION AND ACCEPTANCE PROVISIONS

3.7.1 Finished Curtain-Wall System Requirements

Curtain-wall work which contains any of the following deficiencies, is unacceptable, and will be rejected:

Finish of exposed-to-view aluminum having color and appearance that are outside the color and appearance range of the approved samples.

Installed curtain-wall components having stained, discolored, abraded, or otherwise damaged exposed-to-view surfaces that cannot be cleaned or repaired.

Aluminum surfaces in contact with dissimilar materials that are not protected as specified.

3.7.2 Repair of Defective Work

Remove and replace defective work with curtain-wall materials that meet the specifications at no expense to the Government.

-- End of Section --

SECTION 08 51 13

ALUMINUM WINDOWS
05/19

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 ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 907	(2015) Voluntary Specification for Corrosion Resistant Coatings on Carbon Steel Components Used in Windows, Doors and Skylights
AAMA 1503	(2009) Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections
AAMA 2605	(2020) Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
AAMA/WDMA/CSA 101/I.S.2/A440	(2017) North American Fenestration Standard/Specification for Windows, Doors, and Skylights

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

ASHRAE 169	(2013) Climate Data for Building Design Standards

ASTM INTERNATIONAL (ASTM)

ASTM E1886	(2019) Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
ASTM E1996	(2017) Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes

NATIONAL FENESTRATION RATING COUNCIL (NFRC)

NFRC 100	(2020) Procedure for Determining Fenestration Product U-Factors

NFRC 200	(2020) Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Windows

Fabrication Drawings

SD-03 Product Data

Windows

Fasteners

Window Performance

Thermal-Barrier Windows

Accessories

Thermal Performance

SD-04 Samples

Finish Sample

Window Sample

Window Mock-Ups

SD-05 Design Data

Structural Calculations for Deflection

SD-06 Test Reports

Minimum Condensation Resistance Factor

Windborne-Debris-Impact Performance

SD-10 Operation and Maintenance Data

Windows

1.3 QUALITY ASSURANCE

1.3.1 Qualification of Manufacturer

Window manufacturer must specialize in designing and manufacturing the type of aluminum windows specified in this section, and have a minimum of ten years of documented successful experience. Manufacturer must have the

facilities capable of meeting contract requirements, single-source responsibility and warranty.

1.3.2 Shop Drawing Requirements

Take field measurements prior to preparation of drawings and fabrications. Provide drawings that indicate elevations of windows, full-size sections, thickness and gages of metal, fastenings, proposed method of anchoring, size and spacing of anchors, details of construction, method of glazing, details of operating hardware, mullion details, method and materials for weatherstripping, material and method of attaching subframes, stools, casings, sills, trim, installation details, and other related items.

1.3.3 Sample Requirements

1.3.3.1 Finish Sample Requirements

Submit color chart of standard factory color coatings when factory-finish color coating is to be provided.

1.3.3.2 Window Sample Requirements

Submit one full-size corner of each window type proposed for use. Where screens or weatherstripping is required, fit sample with such items that are to be used.

1.3.3.3 Mock-Ups

Before fabrication, full-size mock-up of one window unit complete with glass and AAMA certification label for structural purposes and NFRC Temporary and Permanent Label for certification of thermal performance rating will be required for review of window construction and quality of hardware operation.

1.3.4 Design Data Requirements

Submit calculations to substantiate compliance with deflection requirements. A registered Professional Engineer must provide calculations.

Submit design analysis with calculations showing that the design of each different size and type of aluminum window unit and its anchorage to the structure. Calculations verifying the structural performance of each window proposed for use, under the given loads, must be prepared and signed by a registered professional engineer. Reflect the window components and anchorage devices to the structure, as determined by the design analysis, in the shop drawings.

1.3.5 Test Report Requirements

Submit test reports for each type of window attesting that identical windows have been tested and meet the requirements specified herein for conformance to AAMA/WDMA/CSA 101/I.S.2/A440 including test size, and minimum condensation resistance factor (CRF).

1.3.6 Certification

Each prime window unit must bear the AAMA Label warranting that the product complies with AAMA/WDMA/CSA 101/I.S.2/A440. Certified test

reports attesting that the prime window units meet the requirements of AAMA/WDMA/CSA 101/I.S.2/A440, including test size, will be acceptable in lieu of product labeling.

1.4 DELIVERY AND STORAGE

Deliver windows to project site in an undamaged condition. Use care in handling and hoisting windows during transportation and at the jobsite. Store windows and components out of contact with the ground, under a weathertight covering, so as to prevent bending, warping, or otherwise damaging the windows. Repair damaged windows to an "as new" condition as approved. If windows can not be repaired, provide a new unit.

1.5 PLASTIC IDENTIFICATION

Label plastic products provided to indicate their polymeric composition according to the following list. Where products are not labeled, provide product data indicating polymeric information in Operation and Maintenance Manual.

a. Type 1: Polyethylene Terephthalate (PET, PETE).

b. Type 2: High Density Polyethylene (HDPE).

c. Type 3: Vinyl (Polyvinyl Chloride or PVC).

d. Type 4: Low Density Polyethylene (LDPE).

e. Type 5: Polypropylene (PP).

f. Type 6: Polystyrene (PS).

g. Type 7: Other. Use of this code indicates that the package in question is made with a resin other than the six listed above, or is made of more than one resin listed above, and used in a multi-layer combination.

1.6 PERFORMANCE REQUIREMENTS

Provide aluminum windows of performance indicated that comply with AAMA/WDMA/CSA 101/I.S.2/A440

a. Performance Class and Grade: AW-PG100

1.6.1 Wind Loading Design Pressure

Design window components, including mullions, hardware, and anchors, to withstand a wind-loading design pressure of at least 100 pounds per square foot (psf).

1.6.2 Tests

Test windows proposed for use in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 for the particular type and quality window specified.

Perform tests by a nationally recognized independent testing laboratory equipped and capable of performing the required tests. Submit the results of the tests as certified laboratory reports required herein.

Uniform Load Deflection: A minimum static air pressure difference of 100 psf shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 of the span of any framing member.

Uniform Load Structural Test: A minimum static air pressure difference of 150 psf shall be applied in the positive and negative direction in accordance with ASTM E 330. The unit shall be evaluated after each load.

1.7 DRAWINGS

Submit the Fabrication Drawings for aluminum window units showing complete window assembly including hardware, weatherstripping, and subframe assembly details.

1.8 WINDOW PERFORMANCE

Aluminum windows must meet the following performance requirements. Perform testing requirements by an independent testing laboratory or agency.

1.8.1 Structural Performance

Structural test pressures on window units must be for positive load (inward) and negative load (outward). After testing, there will be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms or any other damage which could cause window to be inoperable. There must be no permanent deformation of any main frame, sash or ventilator member in excess of the requirements established by AAMA/WDMA/CSA 101/I.S.2/A440 for the window types and classification specified in this section.

1.8.2 Air Infiltration

The test specimen shall be tested in accordance with ASTM E 283. The air leakage rate shall not exceed 0.10 cfm/ft2 at a static air pressure differential of 6.2 psf

1.8.3 Water Penetration

The test specimen shall be tested in accordance with ASTM E 331 and ASTM E 547. There shall be no leakage as defined in the test method at a static air pressure differential of 12 psf.

1.8.4 Thermal Performance

Windows (including frames and glass) will be independently tested and certified with a Solar Heat Gain Coefficient (SHGC) determined according to NFRC 200 procedures and a whole window U-factor determined in accordance with NFRC 100 within the ranges as indicated below according to the ASHRAE 169 Climate Zone of the project location. Provide visual Transmittance (VT) of 0.5 or greater.

1.8.4.1 Northern Climate

Windows installed within Climate Zone 7 will have a U-Factor of .28 BTU/h·ft ^{2}·degrees F or less and a SHGC of 0.40 or less.

1.8.5 Windborne-Debris-Impact Performance

Exterior window system including glazing must comply with indicated basis or enhanced protection testing requirements in ASTM E1996 for Wind Zone 4 when tested according to ASTM E1886. Test specimens must be no smaller in width and length than glazing indicated for use on Project and must be installed in same manner as glazing indicated for use on Project.

a. Classification of window: basic protection.

b. Large-Missile Test: For glazing located within 30 feet of grade.

1.9 WARRANTY

Provide Manufacturer's standard performance guarantees or warranties that extend beyond a 1 year period.

PART 2 PRODUCTS

Basis-of-Design Product:
1. Kawneer Company Inc.
2. Series 8400TL Thermal Windows
3. Model 8410TL Fixed Window
4. 4" frame depth
5. AW-PG100-FW

2.1 WINDOWS

Provide prime windows that comply with AAMA/WDMA/CSA 101/I.S.2/A440 and the requirements specified herein. In addition to compliance with AAMA/WDMA/CSA 101/I.S.2/A440, window framing members for each individual light of glass must not deflect to the extent that deflection perpendicular to the glass light exceeds L/175 of the glass edge length when subjected to uniform loads at specified design pressures. Provide Structural calculations for deflection to substantiate compliance with deflection requirements. Provide windows of types, performance classes, performance grades, combinations, and sizes indicated or specified. Design windows to accommodate hardware, glass, weatherstripping, screens, and accessories to be furnished. Each window must be a complete factory assembled unit with or without glass installed. Dimensions shown are minimum. Provide windows with insulating glass and thermal break necessary to achieve a minimum Condensation Resistance Factor (CRF) of not less than 67frame and 66glass. when tested in accordance with AAMA 1503. Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.

2.1.1 Fixed Windows (F)

Type AW-PG100-FW.

2.1.2 Glass and Glazing

Materials are specified in Section 08 81 00 GLAZING.

2.1.3 Caulking and Sealing

Are specified in Section 07 92 00 JOINT SEALANTS.

2.2 FABRICATION

Fabrication of window units must comply with AAMA/WDMA/CSA 101/I.S.2/A440.

2.2.1 Provisions for Glazing

Design windows and rabbets suitable for glass thickness shown or specified. Design sash for double glazing and for securing glass with metal beads, glazing clips, glazing channels, or glazing compound.

2.2.2 Fasteners

Use window manufacturer's standard for windows, trim, and accessories. Self-tapping sheet-metal screws are not acceptable for material more than 1/16 inch thick.

2.2.3 Adhesives

Provide joint sealants as specified in Section 07 92 00 JOINT SEALANTS. For interior application of joint sealants, comply with applicable regulations regarding reduced VOC's, and as specified in Section 07 92 00 JOINT SEALANTS.

2.2.4 Drips and Weep Holes

Provide continuous drips over heads of top ventilators. Where fixed windows adjoin ventilators, drips must be continuous across tops of fixed windows. Provide drips and weep holes as required to return water to the outside.

2.2.5 Combination Windows

Windows used in combination must be factory assembled of the same class and grade. Where factory assembly of individual windows into larger units is limited by transportation considerations, prefabricate, match mark, transport, and field assemble.

2.2.6 Mullions and Transom Bars

Provide mullions with a thermal break. Secure mullions and transom bars to adjoining construction and window units in such a manner as to permit expansion and contraction and to form a weathertight joint. Provide mullion covers on the interior and exterior to completely close exposed joints and recesses between window units and to present a neat appearance.

2.2.7 Accessories

Provide windows complete with necessary hardware, fastenings, clips, fins, anchors, glazing beads, and other appurtenances necessary for complete installation and proper operation. Furnish extruded aluminum subframe receptors and subsill with each window unit.

2.2.7.1 Fasteners

Provide concealed anchors of the type recommended by the window

manufacturer for the specific type of construction. Anchors and fasteners must be compatible with the window and the adjoining construction. Provide a minimum of three anchors for each jamb located approximately 6 inches from each end and at midpoint.

2.2.7.2 Window Anchors

Anchoring devices for installing windows must be made of aluminum, cadmium-plated steel, stainless steel, or zinc-plated steel conforming to AAMA/WDMA/CSA 101/I.S.2/A440.

2.2.8 Finishes

Comply with NAAMM's "Metal Finishes Manual" for applying and designating finishes. Exposed aluminum surfaces must be factory finished with an organic coating. Color must be White to match existing window frames. All windows must have the same finish.

2.2.8.1 Organic Coating

Clean and prime exposed aluminum surfaces. Provide a high-performance finish in accordance with AAMA 2605 with total dry film thickness of not less than 1.2 mils.

2.3 THERMAL-BARRIER WINDOWS

Provide thermal-barrier windows, complete with accessories and fittings, where indicated.

Specify material and construction except as follows:

a. Aluminum alloy must be 6063-T6.

b. Frame construction must be factory-assembled and factory-sealed inner and outer aluminum completely separated from metal-to-metal contact. Join assembly by a continuous, concealed, low conductance divider housed in an interlocking extrusion of the inner frame. Metal fasteners, straps, or anchors must not bridge the connection between the inner and outer frame.

c. Windows must be factory-glazed with the type of glass indicated and of the quality specified in Section 08 81 00 GLAZING.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Method of Installation

Install in accordance with the window manufacturer's printed instructions and details. Build in windows as the work progresses or install without forcing into prepared window openings. Set windows at proper elevation, location, and reveal; plumb, square, level, and in alignment; and brace, strut, and stay properly to prevent distortion and misalignment. Protect ventilators and operating parts against accumulation of dirt and building materials by keeping ventilators tightly closed and locked to frame. Bed screws or bolts in sill members, joints at mullions, contacts of windows with sills, built-in fins, and subframes in mastic sealant of a type recommended by the window manufacturer. Install and caulk windows in a

manner that will prevent entrance of water and wind. Fasten insect screens securely in place.

Any materials that show visual evidence of biological growth due to the presence of moisture must not be installed on the building project.

3.1.2 Dissimilar Materials

Where aluminum surfaces are in contact with, or fastened to masonry, concrete, wood, or dissimilar metals, except stainless steel or zinc, protect the aluminum surface from dissimilar materials as recommended in the Appendix to AAMA/WDMA/CSA 101/I.S.2/A440. Do not coat surfaces in contact with sealants after installation with any type of protective material. Do not apply coatings or lacquers to surfaces to which caulking and glazing components must adhere.

3.1.3 Anchors and Fastenings

Make provision for securing units to each other, to masonry, and to other adjoining construction. Windows installed in masonry walls must have head and jamb members designed to recess into masonry wall not less than 7/16 inch.

3.1.4 Adjustments After Installation

After installation of windows and completion of glazing and field painting, adjust all ventilators and hardware to operate smoothly and to provide weathertight sealing when ventilators are closed and locked. Lubricate hardware and operating parts as necessary. Verify that products are properly installed, connected, and adjusted.

3.2 CLEANING

Clean interior and exterior surfaces of window units of mortar, plaster, paint spattering spots, and other foreign matter to present a neat appearance, to prevent fouling of weathering surfaces and weather-stripping, and to prevent interference with the operation of hardware. Replace all stained, discolored, or abraded windows that cannot be restored to their original condition with new windows.

-- End of Section --

SECTION 08 81 00

GLAZING
11/21

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 800	(2016) Voluntary Specifications and Test Methods for Sealants

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z97.1	(2015) Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test

ASTM INTERNATIONAL (ASTM)

ASTM C509	(2015; R 2021) Standard Specifiaction for Elastomeric Cellular Preformed Gasket and Sealing Material
ASTM C864	(2005; R 2015) Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers
ASTM C920	(2018) Standard Specification for Elastomeric Joint Sealants
ASTM C1021	(2008; R 2014) Standard Practice for Laboratories Engaged in Testing of Building Sealants
ASTM C1036	(2021) Standard Specification for Flat Glass
ASTM C1048	(2018) Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass
ASTM C1087	(2016) Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems
ASTM C1172	(2019) Standard Specification for Laminated Architectural Flat Glass
ASTM C1184	(2014) Standard Specification for Structural Silicone Sealants

ASTM C1281	(2016) Standard Specification for Preformed Tape Sealants for Glazing Applications
ASTM D395	(2016; E 2017) Standard Test Methods for Rubber Property - Compression Set
ASTM E1300	(2016) Standard Practice for Determining Load Resistance of Glass in Buildings
ASTM E2190	(2010) Standard Specification for Insulating Glass Unit Performance and Evaluation

GLASS ASSOCIATION OF NORTH AMERICA (GANA)

GANA Glazing Manual	(2008) Glazing Manual
GANA Sealant Manual	(2008) Sealant Manual

INSULATING GLASS MANUFACTURERS ALLIANCE (IGMA)

IGMA TB-1200	(1983; R 2016) Guidelines for Insulating Glass Dimensional Tolerances
IGMA TB-3001	(2001) Guidelines for Sloped Glazing
IGMA TM-3000	(1990; R 2016) North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use

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

16 CFR 1201	Safety Standard for Architectural Glazing Materials

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Insulating Glass

Sealants

Joint Backer

SD-04 Samples

Insulating Glass

SD-07 Certificates

Insulating Glass

SD-08 Manufacturer's Instructions

Setting and Sealing Materials

Glass Setting

SD-11 Closeout Submittals

Warranty for Insulated Glass Units

1.3 SYSTEM DESCRIPTION

Fabricate and install watertight and airtight glazing systems to withstand thermal movement and wind loading without glass breakage, gasket failure, deterioration of glazing accessories, or defects in the Work. Glazed panels must comply with the safety standards, in accordance with ANSI Z97.1, and comply with indicated wind/snow loading in accordance with ASTM E1300.

1.4 QUALITY CONTROL

Submit two 8 by 10 inch samples of each of the following: insulating glass units.

1.5 DELIVERY, STORAGE, AND HANDLING

Deliver products to the Site in unopened containers, labeled plainly with manufacturers' names and brands. Store glass and setting materials in safe, enclosed dry locations and do not unpack until needed for installation. Handle and install materials in a manner that will protect them from damage.

1.6 ENVIRONMENTAL REQUIREMENTS

Do not start glazing work until the outdoor temperature is above40 degrees F and rising, unless procedures recommended by the glass manufacturer and approved by the Contracting Officer are made to warm the glass and rabbet surfaces. Provide ventilation to prevent condensation of moisture on glazing work during installation. Do not perform glazing work during damp or rainy weather.

1.7 WARRANTY

1.7.1 Warranty for Insulated Glass Units

Warranty insulating glass units against development of material obstruction to vision (such as dust, fogging, or film formation on the inner glass surfaces) caused by failure of the hermetic seal, other than through glass breakage, for a 10-year period following acceptance of the Work. Provide new units for any units failing to comply with terms of this warranty within 45 working days after receipt of notice from the Government.

PART 2 PRODUCTS

2.1 GLASS

ASTM C1036, unless specified otherwise. In doors and sidelights, provide safety glazing material conforming to 16 CFR 1201.

2.1.1 Laminated Glass

ASTM C1172, Laminated glass fabricated from two nominal 1/8 inch pieces of Type I, Kind FT, Quality Q3, flat fully tempered clear glass conforming to ASTM C1048. Flat glass to be laminated together with a minimum of 0.030 inch inch thick, clear polyvinyl butyral laminate, conforming to requirements of 16 CFR 1201 and ASTM C1172. The total thickness of nominally 1/4 inches. Color to be clear .

2.1.2 Tempered Glass

ASTM C1048, Kind FT (fully tempered), Condition A (uncoated), Type I, Class 1 (transparent) , Quality q3. Color must be clear . .

2.2 INSULATING GLASS UNITS

Two panes of glass separated by a dehydrated airspace, filled with argon gas and hermetically sealed, conforming to ASTM E2190. Submit performance and compliance documentation for each type of insulating glass.

See Section08 44 00 CURTAIN WALL AND GLAZED ASSEMBLIES for energy performance requirements for glazed systems (glazing and frames).

Dimensional tolerances must be as specified in IGMA TB-1200. Spacer must be black, roll-formed, thermally broken aluminum, with bent or tightly welded or keyed and sealed joints to completely seal the spacer periphery and eliminate moisture and hydrocarbon vapor transmission into airspace through the corners. Primary seal must be compressed polyisobutylene and the secondary seal must be a specially formulated silicone.

The inner light must be ASTM C1172, clear annealed flat glass Type I, Class I, Quality q3 . The outer light must be ASTM C1048, Grade B (fully tempered), Style I (uncoated), Type I, Class 1 (clear) , Quality q4,.

2.2.1 Low Emissivity Coatings

Interior and exterior glass panes for Low-E insulating units must be Type I annealed flat glass, Class 1-clear with anti-reflective low-emissivity coating or heat-strengthened or fully tempered glass complying with ASTM C1048, Condition C on No. 2 surface (inside surface of exterior pane), Quality q3 - glazing select, conforming to ASTM C1036..

2.3 SETTING AND SEALING MATERIALS

Provide as specified in the GANA Glazing Manual, IGMA TM-3000, IGMA TB-3001, and manufacturer's recommendations, unless specified otherwise herein. Do not use metal sash putty, nonskinning compounds, nonresilient preformed sealers, or impregnated preformed gaskets. Materials exposed to view and unpainted must be gray or neutral color. Sealant testing must be performed by a testing agency qualified according to ASTM C1021.

Submit glass manufacturer's recommendations for setting and sealing materials and for installation of each type of glazing material specified.

2.3.1 Sealants

Provide elastomeric and structural sealants.

2.3.1.1 Elastomeric Sealant

ASTM C920, Type S, Grade NS, Class 12.5, Use G. Use for channel or stop glazing metal sash. Sealants must be chemically compatible with setting blocks, edge blocks, and sealing tapes, with sealants used in manufacture of insulating glass units . Color of sealant must be white.

2.3.1.2 Structural Sealant

ASTM C1184, Type S.

2.3.2 Joint Backer

Joint backer must have a diameter size at least 25 percent larger than joint width; type and material as recommended in writing by glass and sealant manufacturer.

2.3.3 Glazing Tape

2.3.3.1 Back-Bedding Mastic Glazing Tapes

Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C1281 and AAMA 800 for products indicated below:

a. AAMA 804.3 tape, where indicated.

b. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.

c. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

2.3.3.2 Expanded Cellular Glazing Tapes

Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

a. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.

b. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.3.4 Setting Blocks and Edge Blocks

Closed-cell neoprene setting blocks must be dense extruded type conforming to ASTM C509 and ASTM D395, Method B, Shore A durometer between 70 and 90. Edge blocking must be Shore A durometer of 50 (plus or minus 5). Provide silicone setting blocks when blocks are in contact with silicone sealant. Profiles, lengths and locations must be as required and recommended in writing by glass manufacturer. Block color must be black.

2.3.5 Glazing Gaskets

Glazing gaskets must be extruded with continuous integral locking projection designed to engage into metal glass holding members to provide

a watertight seal during dynamic loading, building movements and thermal movements. Glazing gaskets for a single glazed opening must be continuous one-piece units with factory-fabricated injection-molded corners free of flashing and burrs. Glazing gaskets must be in lengths or units recommended by manufacturer to ensure against pull-back at corners. Provide glazing gasket profiles as recommended by the manufacturer for the intended application.

2.3.5.1 Fixed Glazing Gaskets

Fixed glazing gaskets must be closed-cell (sponge) smooth extruded compression gaskets of cured elastomeric virgin neoprene compounds conforming to ASTM C509, Type 2, Option 1.

2.3.5.2 Wedge Glazing Gaskets

Wedge glazing gaskets must be high-quality extrusions of cured elastomeric virgin neoprene compounds, ozone resistant, conforming to ASTM C864, Option 1, Shore A durometer between 65 and 75.

2.3.5.3 Aluminum Framing Glazing Gaskets

Glazing gaskets for aluminum framing must be permanent, elastic, non-shrinking, non-migrating, watertight and weathertight.

2.3.6 Accessories

Provide as required for a complete installation, including glazing points, clips, shims, angles, beads, and spacer strips. Provide noncorroding metal accessories. Provide primer-sealers and cleaners as recommended by the glass and sealant manufacturers. Use ASTM C1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to surface.

PART 3 EXECUTION

Any materials that show visual evidence of biological growth due to the presence of moisture must not be installed on the building Project.

3.1 PREPARATION

Preparation, unless otherwise specified or approved, must conform to applicable recommendations in the GANA Glazing Manual, GANA Sealant Manual, IGMA TB-3001, IGMA TM-3000, and manufacturer's recommendations. Determine the sizes to provide the required edge clearances by measuring the actual opening to receive the glass. Grind smooth in the shop glass edges that will be exposed in finish Work. Leave labels in place until the installation is approved, except remove applied labels on heat-absorbing glass and on insulating glass units as soon as glass is installed. Securely fix movable items or keep in a closed and locked position until glazing compound has thoroughly set.

3.2 GLASS SETTING

Shop glaze or field glaze items to be glazed using glass of the quality and thickness specified or indicated. Glazing, unless otherwise specified or approved, must conform to applicable recommendations in the GANA Glazing Manual, GANA Sealant Manual, IGMA TB-3001, IGMA TM-3000, and manufacturer's recommendations. Aluminum windows, wood doors, and wood

windows may be glazed in conformance with one of the glazing methods described in the standards under which they are produced, except that face puttying with no bedding will not be permitted. Handle and install glazing materials in accordance with manufacturer's instructions. Use beads or stops which are furnished with items to be glazed to secure the glass in place. Verify products are properly installed, connected, and adjusted.

3.2.1 Sheet Glass

Cut and set with the visible lines or waves horizontal.

3.2.2 Insulating Glass Units

Do not grind, nip, or cut edges or corners of units after the units have left the factory. Springing, forcing, or twisting of units during setting will not be permitted. Handle units so as not to strike frames or other objects. Installation must conform to applicable recommendations of IGMA TB-3001 and IGMA TM-3000.

3.2.3 Installation of Heat-Absorbing Glass

Provide glass with clean-cut, factory-fabricated edges. Field cutting will not be permitted.

3.2.4 Installation of Laminated Glass

Sashes which are to receive laminated glass must be weeped to the outside to allow water drainage into the channel.

3.3 CLEANING

Clean glass surfaces and remove labels, paint spots, putty, and other defacement as required to prevent staining. Glass must be clean at the time the Work is accepted.

3.4 PROTECTION

Protect glass work immediately after installation. Identify glazed openings with suitable warning tapes, cloth or paper flags, attached with non-staining adhesives. Protect reflective glass with a protective material to eliminate any contamination of the reflective coating. Place protective material far enough away from the coated glass to allow air to circulate to reduce heat buildup and moisture accumulation on the glass. Upon removal, separate protective materials for reuse or recycling. Remove and replace glass units which are broken, chipped, cracked, abraded, or otherwise damaged during construction activities with new units.

-- End of Section --

SECTION 09 29 00

GYPSUM BOARD
11/21

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM C475/C475M	(2017) Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board
ASTM C840	(2020) Standard Specification for Application and Finishing of Gypsum Board
ASTM C954	(2018) Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness
ASTM C1002	(2020) Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs
ASTM C1047	(2019) Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base
ASTM C1396/C1396M	(2017) Standard Specification for Gypsum Board
ASTM D3273	(2016) Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH (CDPH)

CDPH SECTION 01350	(2010; Version 1.1) Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers

GYPSUM ASSOCIATION (GA)

GA 214	(2010) Recommended Levels of Gypsum Board Finish

GA 216 (2010) Application and Finishing of Gypsum Panel Products

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Accessories

Gypsum Board

SD-07 Certificates

Asbestos Free Materials

Certify that gypsum board types, gypsum backing board types, cementitious backer units, and joint treating materials do not contain asbestos.

SD-10 Operation and Maintenance Data

Manufacturer Maintenance Instructions

1.3 DELIVERY, STORAGE, AND HANDLING

1.3.1 Delivery

Deliver materials in the original packages, containers, or bundles with each bearing the brand name, applicable standard designation, and name of manufacturer, or supplier.

1.3.2 Storage

Keep materials dry by storing inside a sheltered building. Where necessary to store gypsum board and cementitious backer units outside, store off the ground, properly supported on a level platform, and protected from direct exposure to rain, snow, sunlight, and other extreme weather conditions. Provide adequate ventilation to prevent condensation. Store per manufacturer's recommendations for allowable temperature and humidity range. Do not store gypsum wallboard with materials which have high emissions of volatile organic compounds (VOCs) or other contaminants. Do not store panels near materials that may offgas or emit harmful fumes, such as kerosene heaters, fresh paint, or adhesives. Do not use materials that have visible moisture or biological growth.

1.3.3 Handling

Neatly stack gypsum board and cementitious backer units flat to prevent sagging or damage to the edges, ends, and surfaces.

1.4 QUALIFICATIONS

Furnish type of gypsum board work specialized by the installer with a minimum of 3 years of documented successful experience.

1.5 SCHEDULING

Commence application only after the area scheduled for gypsum board work is completely weathertight. The heating, ventilating, and air-conditioning systems must be complete and in operation prior to application of the gypsum board. If the mechanical system cannot be activated before gypsum board is begun, the gypsum board work may proceed in accordance with an approved plan to maintain the environmental conditions specified below. Apply gypsum board prior to the installation of finish flooring and acoustic ceiling.

1.6 ENVIRONMENTAL REQUIREMENTS

Do not expose the gypsum board to excessive sunlight prior to gypsum board application. Maintain a continuous uniform temperature of not less than 50 degrees F and not more than 80 degrees F for at least one week prior to the application of gypsum board work, while the gypsum board application is being done, and for at least one week after the gypsum board is set. Shield air supply and distribution devices to prevent any uneven flow of air across the plastered surfaces. Provide ventilation to exhaust moist air to the outside during gypsum board application, set, and until gypsum board jointing is dry. In glazed areas, keep windows open top and bottom or side to side 3 to 4 inches. Reduce openings in cold weather to prevent freezing of joint compound when applied. For enclosed areas lacking natural ventilation, provide temporary mechanical means for ventilation. In unglazed areas subjected to hot, dry winds or temperature differentials from day to night of 20 degrees F or more, screen openings with cheesecloth or similar materials. Avoid rapid drying. During periods of low indoor humidity, provide minimum air circulation following gypsum boarding and until gypsum board jointing complete and is dry.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Asbestos Free Materials

Provide gypsum board types, gypsum backing board types, cementitious backing units, and joint treating materials manufactured from asbestos free materials only.

2.1.2 Gypsum Board

ASTM C1396/C1396M. Provide gypsum wall board and panels meeting the emissions requirements of CDPH SECTION 01350 (limit requirements for either office or classroom spaces regardless of space type).

2.1.2.1 Regular

48 inch wide, 1/2 or 5/8 inch thick shall match existing, edges as required.

2.1.2.2 Mold Resistant / Anti-Microbial Gypsum

ASTM D3273. 48 inch wide, 1/2 or 5/8 inch thick shall match existing, edges.

2.1.3 Joint Treatment Materials

ASTM C475/C475M. Product must be low emitting VOC types with VOC limits

not exceeding 50 g/L. Provide data identifying VOC content of joint compound. Use all purpose joint and texturing compound containing inert fillers and natural binders, including lime compound. Pre-mixed compounds must be free of antifreeze, vinyl adhesives, preservatives, biocides and other slow releasing compounds.

2.1.3.1 Embedding Compound

Specifically formulated and manufactured for use in embedding tape at gypsum board joints and compatible with tape, substrate and fasteners.

2.1.3.2 Finishing or Topping Compound

Specifically formulated and manufactured for use as a finishing compound.

2.1.3.3 All-Purpose Compound

Specifically formulated and manufactured to serve as both a taping and a finishing compound and compatible with tape, substrate and fasteners.

2.1.3.4 Setting or Hardening Type Compound

Specifically formulated and manufactured for use with fiber glass mesh tape.

2.1.3.5 Joint Tape

Use cross-laminated, tapered edge, reinforced paper, or fiber glass mesh tape recommended by the manufacturer.

2.1.4 Fasteners

2.1.4.1 Screws

ASTM C1002, Type "G", Type "S" or Type "W" steel drill screws for fastening gypsum board to gypsum board, wood framing members and steel framing members less than 0.033 inch thick. ASTM C954 steel drill screws for fastening gypsum board to steel framing members 0.033 to 0.112 inch thick. Provide cementitious backer unit screws with a polymer coating.

2.1.5 Accessories

ASTM C1047. Fabricate from plastic designed for intended use. Accessories manufactured with paper flanges are not acceptable. Flanges must be free of dirt, grease, and other materials that may adversely affect bond of joint treatment. Provide prefinished or job decorated materials.

2.1.6 Water

Provide clean, fresh, and potable water.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Framing and Furring

Verify that framing and furring are securely attached and of sizes and

spacing to provide a suitable substrate to receive gypsum board and cementitious backer units. Verify that all blocking, headers and supports are in place to support plumbing fixtures and to receive soap dishes, grab bars, towel racks, and similar items. Do not proceed with Work until framing and furring are acceptable for application of gypsum board and cementitious backer units.

3.1.2 Building Construction Materials

Do not install building construction materials that show visual evidence of biological growth.

3.2 APPLICATION OF GYPSUM BOARD

Apply gypsum board to framing and furring members in accordance with ASTM C840 or GA 216 and the requirements specified. Apply gypsum board with separate panels in moderate contact; do not force in place. Stagger end joints of adjoining panels. Neatly fit abutting end and edge joints. Use gypsum board of maximum practical length; select panel sizes to minimize waste. Cut out gypsum board to make neat, close, and tight joints around openings. In vertical application of gypsum board, provide panels in lengths required to reach full height of vertical surfaces in one continuous piece. Lay out panels to minimize waste; reuse cutoffs whenever feasible. Surfaces of gypsum board and substrate members may not be bonded together with an adhesive. Treat edges of cutouts for plumbing pipes, screwheads, and joints with water-resistant compound as recommended by the gypsum board manufacturer. Wherever possible and in accordance with Structural Engineering, minimize framing by floating corners with single studs and drywall clips. Provide type of gypsum board for use in each system specified herein as indicated.

3.2.1 Application of Single-Ply Gypsum Board to Wood Framing

Apply in accordance with ASTM C840, System I or GA 216.

3.2.2 Application of Two-Ply Gypsum Board to Wood Framing

Apply in accordance with ASTM C840, System II or GA 216.

3.2.3 Application of Gypsum Board to Steel Framing and Furring

Apply in accordance with ASTM C840, System VIII or GA 216.

3.3 FINISHING OF GYPSUM BOARD

Tape and finish gypsum board in accordance with ASTM C840, GA 214 and GA 216. Finish walls to receive textured finish to match existing before painting to Level 3 in accordance with GA 214. Provide joint, fastener depression, and corner treatment. Tool joints as smoothly as possible to minimize sanding and dust. Do not use self-adhering fiber glass mesh tape with conventional drying type joint compounds; use setting or hardening type compounds only. Provide treatment for water-resistant gypsum board as recommended by the gypsum board manufacturer. Protect workers, building occupants, and HVAC systems from gypsum dust.

3.3.1 Uniform Surface

Wherever gypsum board is to receive eggshell, semigloss or gloss paint finish, or where severe, up or down lighting conditions occur, finish

gypsum wall surface in accordance to GA 214 Level 5. In accordance with GA 214 Level 5, apply a thin skim coat of joint compound to the entire gypsum board surface, after the two-coat joint and fastener treatment is complete and dry.

3.4 SEALING

Seal openings around pipes, fixtures, and other items projecting through gypsum board and cementitious backer units as specified in Section 07 92 00 JOINT SEALANTS. Apply material with exposed surface flush with gypsum board or cementitious backer units.

3.5 PATCHING

Patch surface defects in gypsum board to a smooth, uniform appearance, ready to receive finishes.

3.6 Manufacturer Maintenance Instructions

Include manufacturer's maintenance instructions for gypsum materials and all related components including but not limited adhesives and joint compounds in the Project's O&M Manual.

-- End of Section --

SECTION 09 90 00

PAINTS AND COATINGS
11/21

PART 1 GENERAL

1.1 RELATED REQUIREMENTS

1.1.1 Painting Included

Where a space or surface is indicated to be painted, include the following unless indicated otherwise.

a. Surfaces behind portable objects and surface mounted articles readily detachable by removal of fasteners, such as screws and bolts.

b. New factory finished surfaces that require identification or color coding and factory finished surfaces that are damaged during performance of the Work.

c. Existing coated surfaces that are damaged during performance of the Work.

1.1.1.1 Interior Painting

Includes new surfaces and existing coated surfaces of the buildings and appurtenances as indicated and existing coated surfaces made bare by cleaning operations. Where a space or surface is indicated to be painted, include the following items, unless indicated otherwise.

a. Exposed columns, girders, beams, joists, and metal deck; and

b. Other contiguous surfaces.

1.1.2 Painting Excluded

Do not paint the following unless indicated otherwise.

a. Surfaces concealed and made inaccessible by panelboards, fixed ductwork, machinery, and equipment fixed in place.

b. Surfaces in concealed spaces. Concealed spaces are defined as enclosed spaces above suspended ceilings, furred spaces, attic spaces, crawl spaces, elevator shafts and chases.

c. Steel to be embedded in concrete.

d. Copper, stainless steel, aluminum, anodized aluminum, brass, and lead except existing coated surfaces.

e. Hardware, fittings, and other factory finished items.

1.2 REFERENCES

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

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)

ACGIH 0100	(2017; Suppl 2020) Documentation of the Threshold Limit Values and Biological Exposure Indices

ASTM INTERNATIONAL (ASTM)

ASTM D235	(2002; R 2012) Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)
ASTM D523	(2014; R 2018) Standard Test Method for Specular Gloss
ASTM D4214	(2007; R 2015) Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films
ASTM D4263	(1983; R 2018) Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method
ASTM D4444	(2013; R 2018) Standard Test Method for Laboratory Standardization and Calibration of Hand-Held Moisture Meters
ASTM D6386	(2016a) Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting
ASTM F1869	(2016a) Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

Intelligence Bulletin 65	(2013) Occupational Exposure to Carbon Nanotubes and Nanofibers

MASTER PAINTERS INSTITUTE (MPI)

MPI 3	(2016) Primer, Alkali Resistant, Water Based
MPI 45	(2016) Primer Sealer, Interior Alkyd
MPI 47	(2016) Alkyd, Interior, Semi-Gloss (MPI Gloss Level 5)
MPI 50	(2015) Primer Sealer, Latex, Interior
MPI 52	(2016) Latex, Interior, (MPI Gloss Level 3)
MPI 57	(2012) Varnish, Interior, Polyurethane, Oil Modified, Satin
MPI 101	(2016) Primer, Epoxy, Anti-Corrosive, for

	Metal
MPI 107	(2016) Primer, Rust-Inhibitive, Water Based
MPI ASM	(2019) Architectural Painting Specification Manual
MPI GPS-1-14	(2014) Green Performance Standard GPS-1-14
MPI GPS-2-14	(2014) Green Performance Standard GPS-2-14
MPI MRM	(2015) Maintenance Repainting Manual

SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC 7/NACE No.4	(2007) Brush-Off Blast Cleaning
SSPC Glossary	(2011) SSPC Protective Coatings Glossary
SSPC PA 1	(2016) Shop, Field, and Maintenance Coating of Metals
SSPC QP 1	(2019) Standard Procedure for Evaluating the Qualifications of Industrial/Marine Painting Contractors (Field Application to Complex Industrial Steel Structures and Other Metal Components)
SSPC SP 1	(2015) Solvent Cleaning
SSPC SP 2	(2018) Hand Tool Cleaning
SSPC SP 3	(2018) Power Tool Cleaning
SSPC SP 6/NACE No.3	(2007) Commercial Blast Cleaning
SSPC SP 10/NACE No. 2	(2007) Near-White Blast Cleaning
SSPC VIS 1	(2002; E 2004) Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning
SSPC VIS 3	(2004) Guide and Reference Photographs for Steel Surfaces Prepared by Hand and Power Tool Cleaning
SSPC VIS 4/NACE VIS 7	(1998; E 2000; E 2004) Guide and Reference Photographs for Steel Surfaces Prepared by Waterjetting
SSPC-SP WJ-1/NACE WJ-1	(2012) Clean to Bare Substrate, Waterjet Cleaning of Metals
SSPC-SP WJ-2/NACE WJ-2	(2012) Very Thorough Cleaning, Waterjet Cleaning of Metals
SSPC-SP WJ-3/NACE WJ-3	(2012) Thorough Cleaning, Waterjet Cleaning of Metals

SSPC-SP WJ-4/NACE WJ-4	(2012) Light Cleaning, Waterjet Cleaning of Metals

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FED-STD-313	(2018) Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities

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

29 CFR 1910.1000	Air Contaminants

1.3 DEFINITIONS

1.3.1 Qualification Testing

Qualification testing is the performance of all test requirements listed in the product Specification. This testing is accomplished by MPI to qualify each product for the MPI Approved Product List, and may also be accomplished by Contractor's third-party testing lab if an alternative to Batch Quality Conformance Testing by MPI is desired.

1.3.2 Batch Quality Conformance Testing

Batch quality conformance testing determines that the product provided is the same as the product qualified to the appropriate product Specification. This testing must be accomplished by an MPI testing lab.

1.3.3 Coating

SSPC Glossary; (1) A liquid, liquefiable, or mastic composition that is converted to a solid protective, decorative, or functional adherent film after application as a thin layer; (2) Generic term for paint, lacquer, enamel.

1.3.4 DFT or dft

Dry film thickness, the film thickness of the fully cured, dry paint or coating.

1.3.5 DSD

Degree of Surface Degradation, the MPI system of defining degree of surface degradation. Five levels are generically defined under the Assessment sections in the MPI MRM, MPI Maintenance Repainting Manual.

1.3.6 INT

MPI short term designation for an interior coating system.

1.3.7 Loose Paint

Paint or coating that can be removed with a dull putty knife.

1.3.8 mil / mils

The English measurement for 0.001 in or one one-thousandth of an inch.

1.3.9 MPI Gloss Levels

MPI system of defining gloss. Seven gloss levels (G1 to G7) are generically defined under the Evaluation sections of the MPI Manuals. Traditionally, Flat refers to G1/G2, Eggshell refers to G3, Semigloss refers to G5, and Gloss refers to G6.

Gloss levels are defined by MPI as follows:

Gloss Level	Description	Units at 60 degree angle	Units at 80 degree angle
G1	Matte or Flat	0 to 5	10 max
G2	Velvet	0 to 10	10 to 35
G3	Eggshell	10 to 25	10 to 35
G4	Satin	20 to 35	35 min
G5	Semi-Gloss	35 to 70	
G6	Gloss	70 to 85	
G7	High Gloss		

Gloss is tested in accordance with ASTM D523.

1.3.10 MPI System Number

The MPI coating system number in each MPI Division found in either the MPI Architectural Painting Specification Manual or the Maintenance Repainting Manual and defined as an exterior (EXT/REX) or interior system (INT/RIN).

1.3.11 Paint

SSPC Glossary; (1) Any pigmented liquid, liquefiable, or mastic composition designed for application to a substrate in a thin layer that is converted to an opaque solid film after application. Used for protection, decoration, identification, or to serve some other functional purposes; (2) Application of a coating material.

1.3.12 RIN

MPI short term designation for an interior coating system used in repainting Projects or over existing coating systems.

1.4 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Coating

Product Data Sheets

SD-04 Samples

Color

Textured Wall Coating System

SD-07 Certificates

Qualification Testing laboratory for coatings

Indoor Air Quality for Paints and Primers

SD-08 Manufacturer's Instructions

Application Instructions

Mixing

Manufacturer's Safety Data Sheets

SD-10 Operation and Maintenance Data

Coatings, Data Package 1

1.5 QUALITY CONTROL

1.5.1 Regulatory Requirements

1.5.1.1 Environmental Protection

In addition to requirements specified elsewhere for environmental protection, provide coating materials that conform to the restrictions of the local Air Pollution Control District and regional jurisdiction. Notify Contracting Officer of any paint specified herein which fails to conform.

1.5.1.2 Lead Content

Do not use coatings having a lead content over 0.06 percent by weight of nonvolatile content.

1.5.1.3 Chromate Content

Do not use coatings containing zinc-chromate or strontium-chromate.

1.5.1.4 Asbestos Content

Provide asbestos-free materials.

1.5.1.5 Mercury Content

Provide materials free of mercury or mercury compounds.

1.5.1.6 Silica

Provide abrasive blast media containing no free crystalline silica.

1.5.1.7 Human Carcinogens

Provide materials that do not contain ACGIH 0100 confirmed human carcinogens (A1) or suspected human carcinogens (A2).

1.5.1.8 Carbon Based Fibers / Tubes

Materials must not contain carbon based fibers such as carbon nanotubes or carbon nanofibers. Intelligence Bulletin 65 ranks toxicity of carbon nanotubes on a par with asbestos.

1.5.2 SSPC QP 1 Certification

Contractors that perform surface preparation or coating application on steel substrates must be certified by the Society for Protective Coatings (formerly Steel Structures Painting Council) (SSPC) to the requirements of SSPC QP 1 prior to Contract award, and must remain certified while accomplishing any surface preparation or coating application. If a Contractor's certification expires, the firm will not be allowed to perform any Work until the certification is reissued. Requests for extension of time for any delay to the completion of the Project due to an inactive certification will not be considered. Notify the Contracting Officer of any change in Contractor certification status. Notify the Contracting Officer of all scheduled and unannounced on-site audits from SSPC and furnish a copy of all audit reports.

1.5.3 Approved Products List

The current MPI, "Approved Product List" which lists paint by brand, label, product name and product code as of the date of Contract award, will be used to determine compliance with the submittal requirements of this Specification. The Contractor may choose to use a subsequent MPI "Approved Product List", however, only one list may be used for the entire Contract and each coating system is to be from a single manufacturer. Provide all coats on a particular substrate from a single manufacturer. No variation from the MPI Approved Products List is acceptable.

1.5.4 Paints and Coatings Indoor Air Quality Certifications

Provide paint and coating products certified to meet indoor air quality requirements by MPI GPS-1-14, MPI GPS-2-14 or provide certification by other third-party programs. Provide current product certification documentation from certification body.

Provide certification of Indoor Air Quality for Paints and Primers. Submit required indoor air quality certifications in one submittal package.

1.5.5 Field Samples and Tests

The Contracting Officer may choose up to two coatings that have been delivered to the Site to be tested at no cost to the Government. Take samples of each chosen product as specified in the paragraph SAMPLING PROCEDURE. Test each chosen product as specified in the paragraph TESTING PROCEDURE. Remove products from the job Site which do not conform, and replace with new products that conform to the referenced Specification. Test replacement products that failed initial testing as specified in the paragraph TESTING PROCEDURE at no cost to the Government.

1.5.5.1 Sampling Procedure

Select paint at random from the products that have been delivered to the job Site for sample testing. The Contractor must provide one quart samples of the selected paint materials. Take samples in the presence of the Contracting Officer, and label, and identify each sample. Provide labels in accordance with the paragraph PACKAGING, LABELING, AND STORAGE.

1.5.5.2 Testing Procedure

Provide Batch Quality Conformance Testing for specified products, as defined by and performed by MPI. As an alternative to Batch Quality Conformance Testing, the Contractor may provide Qualification Testing for specified products above to the appropriate MPI product Specification, using the third-party laboratory approved under the paragraph QUALIFICATION TESTING laboratory for coatings. Include the backup data and summary of the test results within the qualification testing lab report. Provide a summary listing of all the reference Specification requirements and the result of each test. Clearly indicate in the summary whether the tested paint meets each test requirement. Note that Qualification Testing may take 4 to 6 weeks to perform, due to the extent of testing required.

Submit name, address, telephone number, FAX number, and e-mail address of the independent third party laboratory selected to perform testing of coating samples for compliance with Specification requirements. Submit documentation that laboratory is regularly engaged in testing of paint samples for conformance with Specifications, and that employees performing testing are qualified. If MPI is chosen to perform the Batch Quality Conformance testing, the above submittal information is not required, only a letter is required from the Contractor stating that MPI will perform the testing.

1.5.6 Textured Wall Coating System

Three complete samples of each indicated type, pattern, and color of textured wall coating system applied to a panel of the same material as that on which the coating system will be applied in the Work. Provide samples of wall coating systems minimum 5 by 7 inches and of sufficient size to show pattern repeat and texture.

1.6 PACKAGING, LABELING, AND STORAGE

Provide paints in sealed containers that legibly show the Contract Specification number, designation name, formula or Specification number, batch number, color, quantity, date of manufacture, manufacturer's formulation number, manufacturer's directions including any warnings and special precautions, and name and address of manufacturer. Furnish pigmented paints in containers not larger than 5 gallons. Store paints and thinners in accordance with the manufacturer's written directions, and as a minimum, stored off the ground, under cover, with sufficient ventilation to prevent the buildup of flammable vapors, and at temperatures between 40 to 95 degrees F. Do not store paint, polyurethane, varnish, or wood stain products with materials that have a high capacity to absorb VOC emissions. Do not store paint, polyurethane, varnish, or wood stain products in occupied spaces.

1.7 SAFETY AND HEALTH

Comply with applicable Federal, State, and local laws and regulations, and with the ACCIDENT PREVENTION PLAN, including the Activity Hazard Analysis as specified in Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS. Include in the Activity Hazard Analysis the potential impact of painting operations on painting personnel and on others involved in and adjacent to the Work zone.

1.7.1 Toxic Materials

To protect personnel from overexposure to toxic materials, conform to the most stringent guidance of:

a. The applicable manufacturer's Safety Data Sheets (SDS) or local regulation.

b. 29 CFR 1910.1000.

c. ACGIH 0100, threshold limit values.

Submit manufacturer's Safety Data Sheets for coatings, solvents, and other potentially hazardous materials, as defined in FED-STD-313.

1.8 ENVIRONMENTAL REQUIREMENTS

Comply, at minimum, with manufacturer recommendations for space ventilation during and after installation.

1.8.1 Coatings

Do not apply coating when air or substrate conditions are:

a. Less than 5 degrees F above dew point;

b. Below 50 degrees F or over 95 degrees F, unless specifically pre-approved by the Contracting Officer and the product manufacturer. Do not, under any circumstances, violate the manufacturer's application recommendations.

1.8.2 Post-Application

Vacate space for as long as possible after application. Wait a minimum of 48 hours before occupying freshly painted rooms. Maintain one of the following ventilation conditions during the curing period, or for 72 hours after application:

a. Supply 100 percent outside air 24 hours a day.

b. Supply airflow at a rate of 6 air changes per hour, when outside temperatures are between 55 degrees F and 85 degrees F and humidity is between 30 percent and 60 percent.

c. Supply airflow at a rate of 1.5 air changes per hour, when outside air conditions are not within the range stipulated above.

PART 2 PRODUCTS

2.1 MATERIALS

Conform to the coating Specifications and standards referenced in PART 3. Submit Product Data Sheets for specified coatings and solvents. Provide preprinted cleaning and maintenance instructions for all coating systems. Submit Manufacturer's Instructions on Mixing: Detailed mixing instructions, minimum and maximum application temperature and humidity, pot life, and curing and drying times between coats.

2.2 COLOR SELECTION OF FINISH COATS

Provide colors of finish coats as indicated or specified. Allow Contracting Officer to select colors not indicated or specified. Manufacturers' names and color identification are used for the purpose of color identification only. Named products are acceptable for use only if they conform to specified requirements. Products of other manufacturers are acceptable if the colors are approximately the colors indicated and the product conforms to specified requirements.

Provide color, texture, and pattern of wall coating systems as indicatedon the Drawings. Submit manufacturer's samples of paint colors. Cross reference color samples to color scheme as indicated. Submit color stencil codes. Tint each coat progressively darker to enable confirmation of the number of coats.

PART 3 EXECUTION

3.1 PROTECTION OF AREAS AND SPACES NOT TO BE PAINTED

Prior to surface preparation and coating applications, remove, mask, or otherwise protect hardware, hardware accessories, machined surfaces, radiator covers, plates, lighting fixtures, public and private property, and other such items not to be coated that are in contact with surfaces to be coated. Following completion of painting, reinstall removed items by workmen skilled in the trades. Restore surfaces contaminated by coating materials, to original condition and repair damaged items.

3.2 SURFACE PREPARATION

Remove dirt, splinters, loose particles, grease, oil, disintegrated coatings, and other foreign matter and substances deleterious to coating performance as specified for each substrate before application of paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Schedule cleaning so that dust and other contaminants will not fall on wet, newly painted surfaces. Spot-prime exposed ferrous metals such as nail heads on or in contact with surfaces to be painted with water-thinned paints, with a suitable corrosion-inhibitive primer capable of preventing flash rusting and compatible with the coating specified for the adjacent areas. Refer to MPI ASM and MPI MRM for additional more specific substrate preparation requirements.

3.2.1 Additional Requirements for Preparation of Surfaces With Existing Coatings

Before application of coatings, perform the following on surfaces covered by soundly-adhered coatings, defined as those which cannot be removed with a putty knife:

a. Test existing finishes for lead before sanding, scraping, or removing. If lead is present, refer to paragraph Toxic Materials.

b. Wipe previously painted surfaces to receive solvent-based coatings, except stucco and similarly rough surfaces clean with a clean, dry cloth saturated with mineral spirits, ASTM D235 or as specified in MPI MRM. Wipe the surfaces dry with a clean, dry, lint free cloth. Wipe immediately preceding the application of the first coat of any coating, unless specified otherwise.

c. Sand existing glossy surfaces to be painted to reduce gloss. Brush, and wipe clean with a damp cloth to remove dust.

d. The requirements specified are minimum. Comply also with the application instructions of the paint manufacturer and specific surface preparation requirements as outlined in MPI MRM Exterior Surface Preparation and Interior Surface Preparation.

e. Thoroughly clean previously painted surfaces specified to be repainted of all grease, dirt, dust or other foreign matter.

f. Remove blistering, cracking, flaking and peeling or otherwise deteriorated coatings.

g. Remove chalk so that when tested in accordance with ASTM D4214, the chalk resistance rating is no less than 8.

h. Roughen slick surfaces. Repair damaged areas such as, but not limited to, nail holes, cracks, chips, and spalls with suitable material to match adjacent undamaged areas.

i. Feather and sand smooth edges of chipped paint.

j. Clean rusty metal surfaces in accordance with SSPC requirements. Use solvent, mechanical, or chemical cleaning methods to provide surfaces suitable for painting.

k. Provide new, proposed coatings that are compatible with existing coatings.

3.2.2 Existing Coated Surfaces with Minor Defects

Sand, spackle, and treat minor defects to render them smooth. Minor defects are defined as scratches, nicks, cracks, gouges, spalls, alligatoring, chalking, and irregularities due to partial peeling of previous coatings. Remove chalking by sanding or blasting so that when tested in accordance with ASTM D4214, the chalk rating is not less than 8.

3.2.3 Removal of Existing Coatings

Remove existing coatings from the following surfaces:

a. Surfaces containing large areas of minor defects;

b. Surfaces containing more than 20 percent peeling area; and

c. Surfaces designated by the Contracting Officer, such as surfaces where rust shows through existing coatings.

3.2.4 Substrate Repair

a. Repair substrate surface damaged during coating removal;

b. Sand edges of adjacent soundly-adhered existing coatings so they are tapered as smooth as practical to areas involved with coating removal; and

c. Clean and prime the substrate as specified.

3.3 PREPARATION OF METAL SURFACES

3.3.1 Existing and New Ferrous Surfaces

a. Ferrous Surfaces including Shop-coated Surfaces and Small Areas That Contain Rust, Mill Scale and Other Foreign Substances: Solvent clean in accordance with SSPC SP 1 to remove oil and grease. Where shop coat is missing or damaged, clean according to SSPC SP 2, or .; Protect shop-coated ferrous surfaces from corrosion by treating and touching up corroded areas immediately upon detection.

b. Surfaces With More Than 20 Percent Rust, Mill Scale, and Other Foreign Substances: Clean entire surface in accordance with SSPC SP 6/NACE No.3 / SSPC-SP WJ-3/NACE WJ-3.

3.3.2 Final Ferrous Surface Condition:

3.3.2.1 Tool Cleaned Surfaces

Comply with SSPC SP 2 and SSPC SP 3. Use as a visual reference, photographs in SSPC VIS 3 for the appearance of cleaned surfaces.

3.3.2.2 Abrasive Blast Cleaned Surfaces

Comply with SSPC 7/NACE No.4, SSPC SP 6/NACE No.3, and SSPC SP 10/NACE No. 2. Use as a visual reference, photographs in SSPC VIS 1 for the appearance of cleaned surfaces.

3.3.2.3 Waterjet Cleaned Surfaces

Comply with SSPC-SP WJ-1/NACE WJ-1, SSPC-SP WJ-2/NACE WJ-2, SSPC-SP WJ-3/NACE WJ-3 or SSPC-SP WJ-4/NACE WJ-4. Use as a visual reference, photographs in SSPC VIS 4/NACE VIS 7 for the appearance of cleaned surfaces.

3.3.3 Galvanized Surfaces

a. New or Existing Galvanized Surfaces With Only Dirt and Zinc Oxidation Products: Clean with solvent, in accordance with SSPC SP 1. Completely remove coating by brush-off abrasive blast if the galvanized metal has been passivated or stabilized. Do not "passivate" or "stabilize" new galvanized steel to be coated. If the absence of hexavalent stain inhibitors is not documented, test as described in ASTM D6386, Appendix X2, and remove by one of the methods described therein.

b. Galvanized with Slight Coating Deterioration or with Little or No Rusting: Water jetting to SSPC-SP WJ-3/NACE WJ-3 to remove loose

coating from surfaces with less than 20 percent coating deterioration and no blistering, peeling, or cracking. Use inhibitor as recommended by the coating manufacturer to prevent rusting.

c. Galvanized With Severe Deteriorated Coating or Severe Rusting: Spot abrasive blast rusted areas as described for steel in SSPC SP 6/NACE No.3, and waterjet to SSPC-SP WJ-3/NACE WJ-3 to remove existing coating.

3.3.4 Non-Ferrous Metallic Surfaces

Aluminum and aluminum-alloy, lead, copper, and other nonferrous metal surfaces.

Surface Cleaning: Solvent clean in accordance with SSPC SP 1 and wash with mild non-alkaline detergent to remove dirt and water soluble contaminants.

3.3.5 Terne-Coated Metal Surfaces

Solvent clean surfaces with mineral spirits, ASTM D235. Wipe dry with clean, dry cloths.

3.3.6 Existing Surfaces with a Bituminous or Mastic-Type Coating

Remove chalk, mildew, and other loose material by washing with a solution of 1/2 cup trisodium phosphate, 1/4 cup household detergent, one quart 5 percent sodium hypochlorite solution and 3 quarts of warm water.

3.4 PREPARATION OF CONCRETE AND CEMENTITIOUS SURFACE

3.4.1 Concrete and Masonry

a. Curing: Allow concrete, stucco and masonry surfaces to cure at least 30 days before painting, and concrete slab on grade to cure at least 90 days before painting.

b. Surface Cleaning: Remove the following deleterious substances.

(1) Dirt, Chalking, Grease, and Oil: Wash new and existing uncoated surfaces with a solution composed of 1/2 cup trisodium phosphate, 1/4 cup household detergent, and 4 quarts of warm water. Then rinse thoroughly with fresh water. Wash existing coated surfaces with a suitable detergent and rinse thoroughly. For large areas, water blasting may be used.

(2) Fungus and Mold: Wash new, existing coated, and existing uncoated surfaces with a solution composed of 1/2 cup trisodium phosphate, 1/4 cup household detergent, one quart 5 percent sodium hypochlorite solution and 3 quarts of warm water. Rinse thoroughly with fresh water.

(3) Paint and Loose Particles: Remove by wire brushing.

(4) Efflorescence: Remove by scraping or wire brushing followed by washing with a 5 to 10 percent by weight aqueous solution of hydrochloric (muriatic) acid. Do not allow acid to remain on the surface for more than five minutes before rinsing with fresh water. Do not acid clean more than 4 square feet of surface, per

workman, at one time.

c. Cosmetic Repair of Minor Defects: Repair or fill mortar joints and minor defects, including but not limited to spalls, in accordance with manufacturer's recommendations and prior to coating application.

d. Allowable Moisture Content: Latex coatings may be applied to damp surfaces, but not to surfaces with droplets of water. Do not apply epoxies to damp vertical surfaces as determined by ASTM D4263 or horizontal surfaces that exceed 3 lbs of moisture per 1000 square feet in 24 hours as determined by ASTM F1869. In all cases follow manufacturer's recommendations. Allow surfaces to cure a minimum of 30 days before painting.

3.4.2 Gypsum Board, Plaster, and Stucco

3.4.2.1 Surface Cleaning

Verify that plaster and stucco surfaces are free from loose matter and that gypsum board is dry. Remove loose dirt and dust by brushing with a soft brush, rubbing with a dry cloth, or vacuum-cleaning prior to application of the first coat material. A damp cloth or sponge may be used if paint is water-based.

3.4.2.2 Repair of Minor Defects

Prior to painting, repair joints, cracks, holes, surface irregularities, and other minor defects with patching plaster or spackling compound and sand smooth.

3.4.2.3 Allowable Moisture Content

Latex coatings may be applied to damp surfaces, but not surfaces with droplets of water. Do not apply epoxies to damp surfaces as determined by ASTM D4263. Verify that new plaster to be coated has a maximum moisture content of 8 percent, when measured in accordance with ASTM D4444, Method A, unless otherwise authorized. In addition to moisture content requirements, allow new plaster to age a minimum of 30 days before preparation for painting.

3.5 PREPARATION OF WOOD AND PLYWOOD SURFACES

3.5.1 New Plywood and Wood Surfaces, Except Floors:

a. Surface Cleaning: Clean wood surfaces of foreign matter. Verify that surfaces are free from dust and other deleterious substances and in a condition approved by the Contracting Officer prior to receiving paint or other finish. Do not use water to clean uncoated wood.

c. Do not exceed 12 percent moisture content of the wood as measured by a moisture meter in accordance with ASTM D4444, Method A, unless otherwise authorized.

d. Prime or touch up wood surfaces adjacent to surfaces to receive water-thinned paints before applying water-thinned paints.

e. Cracks and Nailheads: Set and putty stop nailheads and putty cracks after the prime coat has dried.

f. Cosmetic Repair of Minor Defects:

(1) Knots and Resinous Wood: Prior to application of coating, cover knots and stains with two or more coats of 3-pound-cut shellac varnish, plasticized with 5 ounces of castor oil per gallon. Scrape away existing coatings from knotty areas, and sand before treating. Prime before applying any putty over shellacked area.

(2) Open Joints and Other Openings: Fill with whiting putty, linseed oil putty. Sand smooth after putty has dried.

(3) Checking: Where checking of the wood is present, sand the surface, wipe and apply a coat of pigmented orange shellac. Allow to dry before paint is applied.

3.5.2 Interior Wood Surfaces, Stain Finish

Sand interior wood surfaces to receive stain. Fill oak and other open-grain wood to receive stain with a coat of wood filler not less than 8 hours before the application of stain; remove excess filler and sand the surface smooth.

3.6 APPLICATION

3.6.1 Coating Application

a. Comply with applicable federal, state and local laws enacted to ensure compliance with Federal Clean Air Standards. Apply coating materials in accordance with SSPC PA 1. SSPC PA 1 methods are applicable to all substrates, except as modified herein.

b. At the time of application, paint must show no signs of deterioration. Maintain uniform suspension of pigments during application.

c. Unless otherwise specified or recommended by the paint manufacturer, paint may be applied by brush, roller, or spray. Use trigger operated spray nozzles for water hoses. Use rollers for applying paints and enamels of a type designed for the coating to be applied and the surface to be coated. Wear protective clothing and respirators when applying oil-based paints or using spray equipment with any paints.

d. Only apply paints, except water-thinned types, to surfaces that are completely free of moisture as determined by sight or touch.

e. Thoroughly work coating materials into joints, crevices, and open spaces. Pay special attention to ensure that all edges, corners, crevices, welds, and rivets receive a film thickness equal to that of adjacent painted surfaces.

f. Apply each coat of paint so that dry film is of uniform thickness and free from runs, drops, ridges, waves, pinholes or other voids, laps, brush marks, and variations in color, texture, and finish. Completely hide all blemishes.

g. Touch up damaged coatings before applying subsequent coats. Clear dust from interior areas before and during the application of coating material.

m. Drying Time: Allow time between coats, as recommended by the coating manufacturer, to permit thorough drying, but not to present topcoat adhesion problems. Provide each coat in specified condition to receive next coat.

n. Primers, and Intermediate Coats: Do not allow primers or intermediate coats to dry more than 30 days, or longer than recommended by manufacturer, before applying subsequent coats. Follow manufacturer's recommendations for surface preparation if primers or intermediate coats are allowed to dry longer than recommended by manufacturers of subsequent coatings. Cover each preceding coat or surface completely by ensuring visually perceptible difference in shades of successive coats.

o. Finished Surfaces: Provide finished surfaces free from runs, drops, ridges, waves, laps, brush marks, and variations in colors.

p. Thermosetting Paints: Apply topcoats over thermosetting paints (epoxies and urethanes) within the overcoat window recommended by the manufacturer.

3.6.2 Mixing and Thinning of Paints

Reduce paints to proper consistency by adding fresh paint, except when thinning is mandatory to suit surface, temperature, weather conditions, application methods, or for the type of paint being used. Obtain written permission from the Contracting Officer to use thinners. Verify that the written permission includes quantities and types of thinners to use.

When thinning is allowed, thin paints immediately prior to application with not more than one pint of suitable thinner per gallon. The use of thinner does not relieve the Contractor from obtaining complete hiding, full film thickness, or required gloss. Thinning cannot cause the paint to exceed limits on volatile organic compounds. Do not mix paints of different manufacturers.

3.6.3 Two-Component Systems

Mix two-component systems in accordance with manufacturer's instructions. Follow recommendation by the manufacturer for any thinning of the first coat to ensure proper penetration and sealing for each type of substrate.

3.6.4 Coating Systems

a. Systems by Substrates: Apply coatings that conform to the respective Specifications listed in the following Tables:

Table for Interior Applications	
MPI Division	Substrate Application
MPI Division 3	Interior Concrete Paint Table
MPI Division 4	Interior Concrete Masonry Units Paint Table

Table for Interior Applications	
MPI Division 5	Interior Metal, Ferrous and Non-Ferrous Paint Table
MPI Division 6	Interior Wood Paint Table
MPI Division 9	Interior Plaster, Gypsum Board, Textured Surfaces Paint Table

b. Minimum Dry Film Thickness (DFT): Apply paints, primers, varnishes, enamels, undercoats, and other coatings to a minimum dry film thickness of 1.5 mil each coat unless specified otherwise in the Tables. Coating thickness, where specified, refers to the minimum dry film thickness.

c. Coatings for Surfaces Not Specified Otherwise: Coat unspecified surfaces the same as surfaces having similar conditions of exposure.

d. Existing Surfaces Damaged During Performance of the Work, Including New Patches In Existing Surfaces: Coat surfaces with the following:

(1) One coat of primer.

(2) One coat of undercoat or intermediate coat.

(3) One topcoat to match adjacent surfaces.

e. Existing Coated Surfaces To Be Painted: Apply coatings conforming to the respective Specifications listed in the Tables herein, except that pretreatments, sealers and fillers need not be provided on surfaces where existing coatings are soundly adhered and in good condition. Do not omit undercoats or primers.

3.7 COATING SYSTEMS FOR METAL

Apply coatings of Tables in MPI Division 5 for Exterior and Interior.

a. Apply specified ferrous metal primer to steel surfaces on the same day that surface is cleaned, to surfaces that meet all specified surface preparation requirements at time of application.

b. Inaccessible Surfaces: Prior to erection, use one coat of specified primer on metal surfaces that will be inaccessible after erection.

c. Shop-primed Surfaces: Touch up exposed substrates and damaged coatings to protect from rusting prior to applying field primer.

d. Surface Previously Coated with Epoxy or Urethane: Apply MPI 101, 1.5 mils DFT immediately prior to application of epoxy or urethane coatings.

e. Pipes and Tubing: The semitransparent film applied to some pipes and tubing at the mill is not to be considered a shop coat. Overcoat these items with the specified ferrous-metal primer prior to application of finish coats.

f. Exposed Nails, Screws, Fasteners, and Miscellaneous Ferrous Surfaces. On surfaces to be coated with water thinned coatings, spot prime

exposed nails and other ferrous metal with latex primer MPI 107.

3.8 COATING SYSTEMS FOR CONCRETE AND CEMENTITIOUS SUBSTRATES

Apply coatings of Tables in MPI Division 3, 4 and 9 for Exterior and Interior.

3.9 COATING SYSTEMS FOR WOOD AND PLYWOOD

a. Apply coatings of Tables in MPI Division 6 for Exterior and Interior.

b. Prior to erection, apply two coats of specified primer to treat and prime wood and plywood surfaces which will be inaccessible after erection.

c. Apply stains in accordance with manufacturer's printed instructions.

3.10 INSPECTION AND ACCEPTANCE

In addition to meeting previously specified requirements, demonstrate mobility of moving components, including swinging and sliding doors, cabinets, and windows with operable sash, for inspection by the Contracting Officer. Perform this demonstration after appropriate curing and drying times of coatings have elapsed and prior to invoicing for final payment.

3.11 WASTE MANAGEMENT

As specified in the Waste Management Plan and as follows. Do not use kerosene or any such organic solvents to clean up water based paints. Properly dispose of paints or solvents in designated containers. Close and seal partially used containers of paint to maintain quality as necessary for reuse. Store in protected, well-ventilated, fire-safe area at moderate temperature. Place materials defined as hazardous or toxic waste in designated containers. Set aside extra paint for future color matches or reuse by the Government.

3.12 PAINT TABLES

All DFT's are minimum values. Acceptable products are listed in the MPI Green Approved Products List, available at http://www.specifygreen.com/APL/ProductIdxByMPInum.asp.

3.12.1 Interior Paint Tables

3.12.1.1 MPI Division 3: Interior Concrete Paint Table

A. Existing, previously painted Concrete, vertical surfaces, not specified otherwise

Latex					
New, uncoated Existing	Existing, previously painted	Primer	Intermediate	Topcoat	System DFT

MPI INT 3.1A-G3 (Eggshell)	MPI RIN 3.1A-G3 (Eggshell)	MPI 3	MPI 52	MPI 52	4 mils
Topcoat: Coating to match adjacent surfaces.					

3.12.1.2 MPI Division 6: Interior Wood Paint Table

A. Interior New Wood; Natural Finish or Stained

Natural finish, oil-modified polyurethane					
New	Existing, previously finished or stained	Primer	Intermediate	Topcoat	System DFT
MPI INT 6.3K-G4	MPI RIN 6.3K-G4	MPI 57	MPI 57	MPI 57	4 mils
Note: Sand between all coats per manufacturers recommendations.					

B. New Wood; Pigmented finish

Alkyd				
New, uncoated Existing	Primer	Intermediate	Topcoat	System DFT
MPI INT 6.3B-G5 (Semigloss)	MPI 45	MPI 47	MPI 47	4.5 mils
Note: Sand between all coats per manufacturers recommendations.				

3.12.1.3 MPI Division 9: Interior Plaster, Gypsum Board, Textured Surfaces Paint Table

A. Interior New and Existing, previously painted Wallboard not otherwise specified

Latex					
New	Existing, previously painted	Primer	Intermediate	Topcoat	System DFT
MPI INT 9.2A-G3 (Eggshell)	RIN 9.2A-G3 (Eggshell)	MPI 50	MPI 52	MPI 52	4 mils
Topcoat: Coating to match adjacent surfaces.					

-- End of Section --

APPENDIX A

U.S. COAST GUARD STANDARD FORMS

APPENDIX TABLE OF CONTENTS

1. Request for Progress Payment
2. DHS Form 700-3 Contractor's Release
3. Request for Shop Drawing or Material Approval
4. Submittal Register (Excel spreadsheet provided separately)
5. Request for Variations
6. Request for Deviation
7. Daily Construction Report
8. Weekly Construction Report
9. Test Report

DHS-USCG
CEU Juneau

REQUEST FOR PROGRESS PAYMENT (CONSTRUCTION)

From:	Contract Number:
Contractors Name	Payment Request No.
Address	Date:
City, State, Zip	Period From:
	To:

Tax ID Number:

Contact Point/Telephone Number:
PROMPT PAYMENT DISCOUNT 0 %

To: Contracting Officer, USCG CEU Juneau, PO BOX 25517, Juneau, AK 99802-2517
Via: PM/COR, CEU Juneau

Request is made for Payment as shown below, in connection the Contract. The present status of account for this contract is as follows:

Original Contract Amount:	
Net Change through Mod No. _____ :	$ -
Total Contract Amount to Date:	$ -
Total Completed & Earned to Date:	$ -
CLIN 1 Construction	
CLIN 2 …	
Less Subcontractor Retainage - Cum	$ -
Less Previous Payments	$ -
SUBTOTAL	$ -
Less Cumulative Retainage:	$ -
Total Completed & Earned this Period:	$ -
Retainage Withheld this Period	$ -
Current Payment Due	**$ -**

Contractor's Signature _____ Date _____

To be completed by Project Manager:

Approved for: ☐ Partial ☐ Final Payment of

Construction Inspector _____ Date _____

Project Manager/Contracting Officer's Representative _____ Date _____

I hereby certify, to the best of my knowledge and belief, that (1) The amounts requested are only for performance in accordance with the specifications, terms and conditions of the contract; (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code; and (3) This request for progress payment does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

Contractor's Signature					Date
Sub Contractor Name	Total Sub-Contract Amount	Cummulative Completed	Cumm Amt of Retainage	Prev Pymts to Sub	Actual Payment Due This Invoice
	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -
	$ -	$ -	$ -	$ -	$ -

DEPARTMENT OF HOMELAND SECURITY

CONTRACTOR'S RELEASE

OMB Control No. 1600-0002
Expiration Date 05/31/2025

PRA Burden Statement: This collection of information is mandatory and will be used to fulfill the requirements of the Homeland Security Acquisition Regulation (HSAR). Public reporting burden is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of the Chief Procurement Officer, Acquisitions Policy and Legislation, Department of Homeland Security, Washington, DC 20528. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for this collection is 1600-0002 and it expires 05/31/2025.

CONTRACTOR (Name and Address)	ENTER SUM OF TOTAL AMOUNTS PAID AND PAYABLE
CONTRACT NO.	$

Pursuant to the terms of the above numbered contract and in consideration of the sum stated above, which has been paid or is to be paid to the Contractor, or its assignees, the Contractor, upon payment of the said sum by the UNITED STATES OF AMERICA (hereinafter called the Government), does remise, release, and discharge the Government, its officers, agents, and employees, of and from all liabilities, obligations, claims, and demands whatsoever under or arising from the said contract, except:

1. Specified claims in stated amounts or in estimated amounts where the amounts are not susceptible of exact statement by the Contractor, as follows: (or state "None")

2. Claims, together with reasonable expenses incidental thereto, based upon the liabilities of the Contractor to third parties arising out of the performance of this contract, which are not known to the Contractor on the date of the execution of this release and of which the Contractor gives notice in writing to the Contracting Officer within the period specified in the said contract; and

3. Claims for reimbursement of costs (other than expenses of the Contractor by reason of his indemnification of the Government against patent liability) including reasonable expenses incidental thereto, incurred by the Contractor under any provisions of the said contract relating to patents.

The Contractor agrees, in connection with patent matters and with claims which are not released as set forth above, that it will comply with all provisions of the said contract, including without limitation those provisions relating to notification to the Contracting Officer and relating to the defense or prosecution of litigation.

IN WITNESSES WHEREOF, this release has been executed this _____ day of _____

_____
(Contractor)

_____ BY _____

_____ TITLE _____

NOTE: In the case of a corporation, witnesses are not required but the statement below must be completed.

I, _____ , am the _____ secretary of the corporation named as Contractor in the foregoing release; that _____ who signed said release on behalf of the Contractor was then _____ of said corporation; release was duly signed for and in behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

(CORPORATE SEAL)

_____
(Signature) *(sign in ink)*

DHS-USCG
CEU Juneau

REQUEST FOR SHOP DRAWING OR MATERIAL APPROVAL

SPECIFICATION SECTION

Contract No. T.O. No.	SUBMITTAL NO.	NEW SUBMITTAL ☐ OR RESUBMITTAL? ☐ PREVIOUS SUBMITTAL NUMBER ----->	
CONTRACTOR:	REVIEWED & APPROVED BY CONTRACTOR:		DATE:

Paragraph Number	Description of Materials	Type	Approved	Disapproved	Approved As Noted

Contractor Comments: *Pusuant to Section 1300 of the Technical Specfications and FAR 52.236-21, through submission of this request the contractor certifies that the product/item offered is in compliance with the contract, except as follows:*
(Specify variances)

Reviewers Comments:

TYPED NAME	SIGNATURE	DATE

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Rpr Windows Guest House & Rec Ctr

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)		(q)	(r)
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SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Rpr Windows Guest House & Rec Ctr

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
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(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
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SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION
Rpr Windows Guest House & Rec Ctr

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
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			Waste Determination	3.8.1														
			Documentation															
			Disposal Documentation for	3.8.3.6														
			Hazardous and Regulated Waste															
			Project Solid Waste Disposal	3.8.2.1														
			Documentation Report															
			Integrated Cultural Resource	1.7.7														
			Management Plan Closeout															
			Report															
			Environmental Records Binder	1.10														
		01 78 00	SD-03 Product Data															
			Warranty Management Plan	1.5.2														
			SD-08 Manufacturer’s Instructions															
			Instructions	1.5.2														
			SD-10 Operation and Maintenance															
			Data															

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CONTRACT NO.

TITLE AND LOCATION
Rpr Windows Guest House & Rec Ctr

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAG # RAPH	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
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		01 78 00	Operation and Maintenance	3.3															
			Manuals																
			SD-11 Closeout Submittals																
			Warranty List	1.5.6															
			As-Built Drawings	3.1															
			Record Drawings	3.2															
		01 78 23	SD-10 Operation and Maintenance																
			Data																
			O&M Manual	1.5.1															
		02 41 00	SD-01 Preconstruction Submittals																
			Demolition Plan	1.2.2.2															
			Existing Conditions	1.10															
		06 10 00	SD-02 Shop Drawings																
			Nailing Strips	2.2.1															
			SD-06 Test Reports																
			Preservative-treated	1.4.3															
			SD-07 Certificates																
			Preservative Treatment	1.7															
		06 20 00	SD-02 Shop Drawings																
			Detail Drawings Indicating All	1.3															
			Wood Assemblies																
			SD-03 Product Data																
			Wood Products	2.1															
			Treated Wood Products	1.4															
			Fascias and Trim	2.2															
		07 13 53	SD-03 Product Data																

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		07 13 53	Manufacturer's Standard Details	1.3															
			Elastomeric Waterproofing Sheet	2.1															
			Materials																
			Primers, Adhesives, and Mastics	1.4.1															
			SD-06 Test Reports																
			Elastomeric Waterproofing Sheet	2.1															
			Materials																
			Field Quality Control	3.6															
			SD-07 Certificates																
			Elastomeric Waterproofing Sheet	2.1															
			Materials																
			Primers, Adhesives, and Mastics	1.4.1															
			Special Warranties	1.7															
			Special Warranties	1.7															
			Certificates Of Compliance																
			SD-08 Manufacturer’s Instructions																
			Primers, Adhesives, and Mastics	1.4.1															
			SD-11 Closeout Submittals																
			Certificates Of Compliance																
		07 21 16	SD-03 Product Data																
			Blanket Insulation	2.1															
			Sill Sealer Insulation	2.2															
			Vapor Retarder	2.3															
			Pressure Sensitive Tape	2.4															
			Accessories	2.5															
			SD-08 Manufacturer’s Instructions																

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		07 21 16	Insulation	3.2.1															
		07 60 00	SD-02 Shop Drawings																
			Base Flashing	3.1.10															
			Counterflashing	3.1.11															
			Drip Edges	3.1.12															
			SD-04 Samples																
			Finish Samples	1.4.2															
		07 92 00	SD-03 Product Data																
			Sealants	2.1															
			Primers	2.2															
			Bond Breakers	2.3															
			Backstops	2.4															
			Field Adhesion Test	3.1															
		08 44 00	SD-02 Shop Drawings																
			Glazed Curtain Wall System	1.5															
			Installation Drawings	1.5															
			SD-03 Product Data																
			Glazed Curtain Wall System	1.5															
			Metals For Fabrication	2.2															
			Metal Accessories	2.4.1															
			Curtain-Wall Framing Members	2.5															
			Warranties	1.7.1															
			SD-05 Design Data																
			Pigmented Organic Coating	2.4.5															
			Seismic Calculations	1.5.5															

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		08 44 00	Structural Calculations for	1.3.5.1															
			Deflection																
			SD-06 Test Reports																
			Field Water Spray Test Results	1.4.1															
			Air Infiltration Test Results	1.4.2															
			Water Penetration Test Results	1.4.2.1															
			SD-07 Certificates																
			Energy Performance Certificates	1.3.5.5															
			Qualifications for the Curtain-Wall	1.3.2															
			Installer																
			SD-08 Manufacturer's Instructions																
			Glazed Curtain Wall System	1.5															
			Insulating Glass	3.3.10															
			Preventive Maintenance and	3.6.2															
			Inspection																
			SD-11 Closeout Submittals																
			Warranty	1.7															
		08 51 13	SD-02 Shop Drawings																
			Windows	2.1															
			Fabrication Drawings	1.7															
			SD-03 Product Data																
			Windows	2.1															
			Fasteners	2.2.2															
			Window Performance	1.8															
			Thermal-Barrier Windows	2.3															
			Accessories	2.2.7															

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		08 51 13	Thermal Performance	1.8.4															
			SD-04 Samples																
			Finish Sample	1.3.3.1															
			Window Sample	1.3.3.2															
			Mock-Ups	1.3.3.3															
			SD-05 Design Data																
			Structural Calculations for	2.1															
			Deflection																
			SD-06 Test Reports																
			Minimum Condensation	1.3.5															
			Resistance Factor																
			Windborne-Debris-Impact	1.8.5															
			Performance																
			SD-10 Operation and Maintenance																
			Data																
			Windows	2.1															
		08 81 00	SD-03 Product Data																
			Insulating Glass	2.2															
			Sealants	2.3.1															
			Joint Backer	2.3.2															
			SD-04 Samples																
			Insulating Glass	2.2															
			SD-07 Certificates																
			Insulating Glass	2.2															
			SD-08 Manufacturer's Instructions																
			Setting and Sealing Materials	2.3															

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		08 81 00	Glass Setting	3.2														
			SD-11 Closeout Submittals															
			Insulated Glass Units	1.7.1														
		09 29 00	SD-03 Product Data															
			Accessories	2.1.5														
			Gypsum Board	2.1.2														
			SD-07 Certificates															
			Asbestos Free Materials	2.1.1														
			SD-10 Operation and Maintenance															
			Data															
			Manufacturer Maintenance	3.6														
			Instructions															
		09 90 00	SD-03 Product Data															
			Coating	2.1														
			Product Data Sheets	2.1														
			SD-04 Samples															
			Color	2.2														
			Textured Wall Coating System	1.5.6														
			SD-07 Certificates															
			Qualification Testing	1.5.5.2														
			Indoor Air Quality for Paints and	1.5.4														
			Primers															
			SD-08 Manufacturer’s Instructions															
			Application Instructions	3.2.1														
			Mixing	2.1														

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		09 90 00	Manufacturer's Safety Data	1.7.1														
			Sheets															
			SD-10 Operation and Maintenance															
			Data															
			Coatings	2.1														

DHS-USCG
CEU Juneau

Request for Variations

FA NO. 001

PROJECT TITLE: _____

CONTRACT NO: _____

CONTRACTOR: _____

CONDITION REQUIRING ADJUSTMENT AND WORK REQUIRED

Re:

SKETCH ATTACHED? YES [ ] NO [ ]

ACCEPTANCE

The adjustment described above will be made at no change in contract time or price.

For the Contractor _____
Signature Date

For the Governement _____
Signature Date

ACCEPTANCE

Contracting Officer: _____
Signature Date

DHS-USCG
CEU Juneau

REQUEST FOR DEVIATION

DEV NO. 001

PROJECT TITLE: _____

CONTRACT NO: _____

CONTRACTOR: _____

DESCRIPTION OF DESIGN CHANGE

RE:

SKETCH ATTACHED? Yes ____ NO ____ POSSIBLE COST CHANGE ____

ORIGINATOR (SIGNATURE) DATE

CONTRACTOR'S REP (SIGNATURE) DATE

RESPONSE

ANSWERED BY (SIGNATURE) DATE

COR (SIGNATURE) DATE

PM_____ TL_____ KO_____

USCG

CM-03
Rev. 6/11

DAILY CONSTRUCTION REPORT Contract No:

PROJECT TITLE: _____ DATE: _____
(DESCRIPTION) (LOCATION)

TASK ORDER NO: _____ WEATHER _____

TEMP AM _____

CONTRACTOR: _____ _____

PRIME/SUB-CONTRACTOR LABOR REPORT

Activity or Mod No.	Description of Work	Number of Personnel	Trade	Employer	Hours	Activity Complete	
						Yes	No

USCG

WEEKLY CONSTRUCTION REPORT Contract No:

PROJECT TITLE: _____ DATE: _____
(DESCRIPTION) (LOCATION)

TASK ORDER NO: _____ WEATHER _____

TEMP AM _____

CONTRACTOR: _____

PRIME/SUB-CONTRACTOR LABOR REPORT

Activity or Mod No.	Description of Work	Number of Personnel	Trade	Employer	Hours	Activity Complete	
						Yes	No

Provide minimum of (10) ten images of work accomplished throughout the week.
Include a brief description and the location in the building of the work in the photo.

DHS-USCG
CEU Juneau

TEST REPORT

Report NO: 001

PROJECT TITLE: _____

TASK ORDER/CONTRACT NO: _____

CONTRACTOR: _____

TEST INFORMATION

TEST DESCRIPTION: _____

DATE:		SPEC SECTION:		ACTIVITY NO:	
REPORT DATE:		ATTACHMENTS?		RETEST?	

TEST RESULTS

COMPLIANCE ☐ **NONCOMPLIANCE** ☐

REMARKS:

ATTACHED SUPPORTING DOCUMENTATION:

_____
TESTING FIRM

_____ _____
TECHNICIAN NAME *(PRINT)* TECHNICIAN (SIGNATURE) DATE

ACKNOWLEDGEMENT

CONTRACTOR'S Quality Control Manager: _____
(SIGNATURE) DATE

GOVERNMENT REPRESENTATIVE: _____
(SIGNATURE) DATE