DESIGN DEVELOPMENT

NOT INTENDED FOR CONSTRUCTION

10/24/24

PROJECT MANUAL

Divisions 00-01

PRIME & ARCHITECT OF RECORD
KPB Architects, Inc.
500 L Street, STE 400, Anchorage, AK 99501
PH 907-274-7443

DESIGN ARCHITECT & MEDICAL PLANNER
NBBJ, Inc.
223 Yale Avenue North, Seattle, WA 98109
PH 206-223-5555

CIVIL ENGINEER
EBSC Engineering, LLC
11301 Olive Lane, Anchorage, AK 99515
PH 907-222-1085

STRUCTURAL ENGINEER
Reid Middleton, Inc.
4300 B Street, STE 302, Anchorage, AK 99503
PH 907-562-3439

MECHANICAL & ELECTRICAL ENGINEERS
RSA Engineering, Inc.
670 Fireweed Lane, STE 200, Anchorage, AK 99503
PH 907-276-0521

MEDICAL EQUIPMENT PLANNER
i-Science
20280 North 59th Avenue, STE 115-45, Glendale, AZ 85310
PH 614-406-6046

ACOUSTICAL ENGINEER
Tenor Engineering Group
811 1st Ave, Seattle, WA 98104
PH 206-899-5450

KITCHEN CONSULTANT
Young Caruso
8055 East Tufts Avenue, STE 1320, Denver, CO 80237
PH 303-649-1600

COST ESTIMATOR
JMB Consulting Group LLC
4320 29th Avenue West, Seattle, WA 98199
PH 206-708-7280

WIND & SNOW DRIFT CONSULTANTS
RWDI
600 Southgate Drive, Guelph, Ontario, N1G 4P6
PH 519-823-1316

Benteh Nuutah Valley Native Primary Care Center Expansion

WASILLA, AK

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SECTION 00 0102
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Owner's Project Number: SCF20-1051

B. Project Name: VNPCC Expansion & Renovation, located at: 4320 Diplomacy Drive, Anchorage, AK 99508

C. The Owner, hereinafter referred to as Owner: Southcentral Foundation

1.02 PROJECT DESCRIPTION

A. Summary Project Description: **<< See Space Program; or Renovation and addition to SCF's Primary Care Center - 2 (West). Approximately 25,000 SF of renovation and a 6,300 SF addition to a two story facility. Departments include Audiology, Pharmacy, Traditional Healing, & Pediatrics. >>**.

B. Contract Scope: **<< Construction; demolition; renovation; hazardous material removal; site acquisition; construction financing; facility operations during occupancy; and specific equipment procurement and installation>>**.

C. Contract Terms: Lump sum (fixed price, stipulated sum)**<< , with incentives; or None - N/A>>**.

1.03 PROJECT CONSULTANTS

A. The **<< Architect; Engineer; or _____>>**, hereinafter referred to as Architect: **KPB Architects**.
   1. Address: **500 L Street, STE 400**.
   2. City, State, Zip: **Anchorage, AK 99501**.
   3. Phone/Fax: **907-274-7443**.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 00 0102

SECTION 01 11 00
SUMMARY OF WORK

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Work Summary

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 WORK COVERED BY CONTRACT DOCUMENTS

A. Work Summary:
Contractors will review existing conditions and prepare a bid for the Tudor and Elmore Development Project based on the information contained in this Project Manual and the Drawings dated DD/MM/YYYY and Specifications dated DD/MM/YYY. Additionally, the contractor shall comply with all administrative requirements of the contract, including the submission of a Contractor's Construction Schedule, safety plan, Schedule of Values, daily reports, Submittals, and other deliverables required under the contract.

3.02 METHOD

A. Construct the Work under a Guaranteed Maximum Price contract.

3.03 WORK BY OWNER

A. Not Applicable

3.04 CONTRACTOR'S USE OF PREMISES

A. The Southcentral Foundation Campus is a Tobacco Free campus. No smoking is permitted on the campus or in any Areas of Work.

B. The Contractor will coordinate with SCF for area of use.

C. Limit use of premises for the Work and for storage to allow for:
1. Owner occupancy.

2. Public use.
3. Coordinated use of premises under direction of Owner.
4. Full responsibility for protection and safekeeping of products under this Contract stored at Project Site.
5. Moving any stored products, under Contractor's control, which interfere with operations of Owner or separate Contractor(s).

D. Obtain and pay for use of any additional storage or work areas needed for operations.

3.05 OWNER'S OCCUPANCY

A. The Owner will continue to occupy and operate the Ernie Turner Center. The Contractor shall coordinate with the Owner to allow normal operations to continue.
B. Contractor shall schedule and coordinate with the Ernie Turner Center, any work which could interfere with the Owner operations.
C. Cooperate with the Owner in construction operations to minimize conflict and to facilitate Owner usage.
D. After substantial completion, schedule work to maintain Owner's operation. Include in contract sum sufficient funds as may be required for any "after hours" work caused by this requirement. No additional payment to Contractor will be authorized because of Contractor's failure to anticipate required "after hours work".
E. Contractor shall conduct operations to insure the least inconvenience to staff, visitors, and the public.

3.06 EXCESSIVE NOISE

A. Minimize noise during Owner's normal working hours. Notify Owner at least 72 hours prior to noisy operations.

3.07 USE OF OWNER'S PROPERTY AND EQUIPMENT

A. Use of Owner's property or equipment such as tools, ladders, furniture, janitorial equipment and supplies etc., is strictly prohibited.

END OF SECTION

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

B. Section 01 11 00 - Summary of Work

C. Section 01 26 00 - Contract Modification Procedures

D. Section 01 30 00 – Administrative Requirements

E. Section 01 60 00 - Product Requirements

F. Section 01 77 00 – Closeout Procedures

G. Section 01 78 00 – Closeout Submittals

1.02 SCHEDULE OF VALUES

A. Coordinate with Contractor's construction schedule and Application for Payment.

B. Submit typed Schedule of Values using form AIA G703-1992 for Bid-Build projects, AIA G743 for Design-Build projects, or alternate form pre-approved by Owner.

C. Submit Schedule of Values to the Architect, Owner, and Owner's Representative as soon as possible, but no later than 20 days after Notice to Proceed for Construction has been issued.

D. Format: When using a pre-approved, non-AIA G702-1992 form for a Schedule of Values, the format shall be as follows: Utilize the Table of Contents of this Project Manual and include other significant work items. At a minimum, rough-in and finish work shall be broken out separately.
   1. Identify each line item with number and title of the Specification Section. Identify site mobilization, bonds, and insurance.
   2. Tabular form indicating:
      a. Related Specification Section or Division.
      b. Description of Work.

c. Name of subcontractor.
d. Name of manufacturer or fabricator.
e. Name of supplier
f. Change Orders (numbers) that affect value.
g. Dollar value.
    1) Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where an Application for Payment may include materials or equipment, purchased, or fabricated and stored, but not yet installed.
    a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
6. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.
7. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Application for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

E. Include within each line item, a directly proportional amount of Contractor's overhead and profit.

F. Provide sub schedule for each separate stage of work specified in Section 01 11 00 - Summary of Work.

G. Revise schedule to list approved Change Orders, with each Application for Payment.

1.03 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect (or Owner on Design-Build Projects) and paid for by the Owner.
   1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.

B. Payment-Application Times: Each progress-payment date is indicated in the Agreement. The period of construction Work covered by each Application for Payment is the period indicated in the General Conditions.

C. Payment Application Form: Use AIA Document G702-1995 and Continuation Sheets G703-1992 or alternative form pre-approved by Owner.

D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect (or Owner if project is Design-Build) will return incomplete applications without action.
   1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
   2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.

E. Transmittal: Submit 1 completed, signed, and notarized copy of each Application for Payment to the Architect (or Owner if a Design-Build Project) by a method pre-approved by the Owner, including waivers of lien and similar attachments, when required by contract.
   1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect and Owner.

F. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
   1. List of subcontractors.
   2. List of principal suppliers and fabricators.
   3. Approved Schedule of Values.
   4. Contractor's Construction Schedule (preliminary if not final).
   5. Submittal Schedule (preliminary if not final).
   6. Certificates of insurance and insurance policies.

G. Applications for Progress Payments
   1. Payment Period: Submit at intervals stipulated in Contract.
   2. Electronic media printout including equivalent information will be considered in lieu of standard form specified: submit sample to Architect for approval.
   3. Submit Applications for Payment on an approved form per the Contract and this specification.
   4. For each item, provide a column for listing each of the following:
      a. Item Number.
      b. Description of work.
      c. Scheduled Values.
      d. Previous Applications.
      e. Work in Place and Stored Materials under this application.
      f. Authorized Change Orders.
      g. Total Completed and Stored to Date of Application.
      h. Percentage of Completion.
      i. Balance to Finish.
      j. Retainage, if applicable (see contract).
   5. Execute certification by signature of authorized officer and notarize payment applications.
   6. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
   7. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
   8. Submit Application for Payment utilizing Owner's project information management software, or in a manner agreed upon by Owner.
   9. Include the following with the application:
      a. Construction Progress Schedule; revised and current as specified in Section 01 32 00 Construction Progress Documentation.
   10. When Architect or Owner requires substantiating information, submit data justifying dollar amounts in question. Provide data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
   1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
   2. Administrative actions and submittals that shall precede or coincide with this application include those required for Substantial Completion as outlined in Section 01 70 00 Execution and Closeout

Requirements.

I. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment including Section 01 70 00 - Execution and Closeout Requirements and Section 01 78 00 – Closeout Submittals.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 23 00
ALTERNATES

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Description of Alternates.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

B. Document 005213 – Agreement Form

C. Document 002113 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

1.03 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.04 SCHEDULE OF ALTERNATES

A. Alternate No. _____ - _____:
   1. Base Bid Item: Section _____ and Drawing number ____ including _____.
   2. Alternate Item: Section _____ and Drawing number ____ including _____.

B. Alternate No. _____ - _____:
   1. Base Bid Item: Section _____ and Drawing number ____ including _____.
   2. Alternate Item: Section _____ and Drawing number ____ including _____.

C. Alternate No. _____ - _____:
   1. Base Bid Item: Section _____ and Drawing number ____ including _____.
   2. Alternate Item: Section _____ and Drawing number ____ including _____.

D. Alternate No. ____ - _____:
   1. Base Bid Item: Section _____ and Drawing number ____ including _____.
   2. Alternate Item: Section _____ and Drawing number ____ including _____.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

B. Section 002113 - Instructions to Bidders: Restrictions on timing of substitution requests.

C. Section 012300 - Alternates, for product alternatives affecting this section.

D. Section 013000 - Administrative Requirements: Submittal procedures, coordination.

E. Section 016000 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
      a. Substitution requests offering advantages solely to the Contractor will not be considered.

B. Substitutions: See General Conditions for definition.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.
   6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

B. Documentation: Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on Contractor.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. No specific form is required. Contractor's Substitution Request documentation must include the following:
      a. Project Information:
         1) Official project name and number, and any additional required identifiers established in Contract Documents.
         2) Owner's, Architect's, and Contractor's names.
      b. Substitution Request Information:
         1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
         2) Indication of whether the substitution is for cause or convenience.
         3) Request date.
         4) Reference to particular Contract Document(s) specification section number, title, article/paragraph(s), and/or sheet number, drawing number, drawing title, etc.
         5) Description of Substitution.
         6) Reason why the specified item cannot be provided.

7) Differences between proposed substitution and specified item.
8) Description of how proposed substitution affects other parts of work.

c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
1) Physical characteristics.
2) In-service performance.
3) Expected durability.
4) Visual effect.
5) Sustainable design features.
6) Warranties.
7) Other salient features and requirements.
8) Include, as appropriate or requested, the following types of documentation:
(a) Product Data:
(b) Samples.
(c) Certificates, test, reports or similar qualification data.
(d) Drawings, when required to show impact on adjacent construction elements.

d. Impact of Substitution:
1) Savings (or additional cost) to Owner for accepting substitution.
2) Change to Contract Time due to accepting substitution.

D. Quantity/ Limitation: Limit each request to a single proposed substitution item.
1. Submit an electronic document, combining the request form with supporting data into single document, to the Architect and Owner.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

E. Submittal Time Restrictions:
1. Owner will consider requests for substitutions only if submitted at least 10 days prior to the date for receipt of bids.

3.03 SUBTITUTION PROCEDURES DURING CONSTRUCTION

F. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to the time required for revi3ew and approval by Architect, in order to stay on approved project schedule.

G. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect and Owner, in order to stay on approved project schedule.

1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
3. Bear the costs engendered by proposed substitution of:
   a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

H. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.

3.04 RESOLUTION

I. Architect or Owner may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

J. Architect will notify Contractor in writing of decision to accept or reject request.
   1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

K. Accepted substitutions change the Work of the Project. They will be documented and incorporated into Work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

L. See Section 017800 - Closeout Submittals, for closeout submittals requirements.

M. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected requests.

END OF SECTION

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Procedures for documenting and processing contract modifications.

1.02 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

B. Section 00 52 13 – Agreement Form.

C. Section 01 20 00 – Price and Payment Procedures.

D. Section 01 60 00 - Product Requirements.

E. Section 01 70 00 – Execution and Closeout Requirements.

1.03 SUBMITTALS

A. Submit name of the individual authorized to receive change documents and be responsible for informing others in contractor's employ or subcontractors of changes to the Work.

B. Proposal Form (for proposed change): AIA Document G709-2018 or another form acceptable to Owner.

C. Change Order Form: AIA Form G701-2017 - Change Order or other form acceptable to Owner.

1.04 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

A. Maintain detailed records of work done on a time and materials basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.

B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.

C. On request, provide additional data to support computations:
   1. Quantities of products, labor, and equipment.
   2. Taxes, insurance and bonds.

3. Overhead and profit.
4. Justification for any change in Contract Time.
5. Credit for deletions from Contract, similarly documented.

D. Support each claim for additional costs and for work done on a time and materials basis, with additional information:
1. Origin and date of claim.
2. Dates and times work was performed, and by whom.
3. Time records and wage rates paid.
4. Invoices and receipts for products, equipment and subcontracts, similarly documented.

1.05 CHANGE PROCEDURES

A. Architects Supplemental Instructions: The Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time, by issuing supplemental instructions on AIA Form G710-2017 - Architect's Supplemental Instructions.

B. Proposal Request: The Owner may issue a Proposal Request (AIA Document G709 or form acceptable to Owner) which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid.

C. Change Proposal: The Contractor may propose a change by submitting a request for change to the Owner, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 016000 – Product Requirements.

D. It is the Owners decision whether a change directive is stipulated sum, unit price, or time and materials.

1.06 CONSTRUCTION CHANGE AUTHORIZATION

A. Architect or Owner may issue a document, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The document will describe changes in the Work and will designate the method of determining any change in Contract Sum or Contract Time.

2. Promptly execute the change in Work.

1.07 STIPULATED SUM CHANGE ORDER

A. Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by the Owner.

1.08 TIME AND MATERIAL CHANGE ORDER

A. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

B. Maintain detailed records of work done on time and materials.

C. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

1.09 EXECUTION OF CHANGE ORDERS

A. Architect or Owner's Representative may prepare Change Orders for signatures of Owner, Contractor, and Architect as provided in the Conditions of the Contract, Article 7.

1.10 CORRELATION OF CONTRACTOR SUBMITTALS

A. Promptly revise Schedule of Values and Application for Payment Forms to record each authorization Change Order as a separate line item and adjust the Contract Sum.

B. Promptly revise Construction Progress Schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other items of work affected by the change, and resubmit.

C. Promptly enter changes in Project Record Documents.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.
B. Accident Prevention Plan.
C. Preconstruction meeting.
D. Progress meetings.
E. Construction progress schedule.
F. Progress photographs.
G. Submittals for review, information, and project closeout.
H. Number of copies of submittals.
I. Requests for Information (RFI) procedures.
J. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
B. Section 005213 – Agreement Form.
C. Section 016000 - Product Requirements.
D. Section 017000 - Execution and Closeout Requirements.

1.03 REFERENCE STANDARDS

A. AIA G716 - Request for Information 2004.
B. AIA G810 - Transmittal Letter 2001.

1.04 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
B. Utilize SCF’s Autodesk Construction Cloud (ACC) project management site for tracking and memorialization of all meeting agendas/minutes, submittals, RFI’s

ASI's, posting of drawings/specifications, document filing, and for all other project document tracking, as directed by the Owner.

C. Make the following types of submittals to Architect:
   1. Requests for Interpretation (RFI).
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

1.05 ACCIDENT PREVENTION PLAN

A. Plan Overview
   1. The APP (aka Construction Safety & Health Plan) shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and ensure it is site-specific. The Prime Contractor is considered to be the "controlling authority" for all worksite safety and health of each subcontractor(s). 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.

B. Plan Content
   1. Include and address in the APP the following, at a minimum.
      a. Type of Project/ Project Description
      b. Scope of Work
      c. Contact Information
      d. Identification of person(s) responsible for safety at the project location and lines of authority
      e. Project Location
      f. Geographic Risks
      g. Site drawings and hazard locations: Contractor's site safety plan, including mustering point, location of nearest hospital/ emergency clinic, vehicular and pedestrian traffic flow graphics, site security checkpoints, area of work limits/fencing, etc., at a minimum.
      h. Procedures to avoid hazards (in the form of Activity Hazard Analysis and Work Plan, as needed, for each unique task where hazards exist).

1) Crane work, confined space entry, scaffolding, walking and working surfaces including fall protection, and other specialized work shall require a separate and specific Work Plan to address the unique risks and hazards associated with the work.

i. Security risks and securing of supplies and the worksite.
j. Safety check schedule
k. Safety orientation for new workers and visitors to the site and accident notification process to Owner.
l. Accident notification and investigation process
m. PPE Guidelines
n. Safety Training
o. First Aid Locations
p. Hazard communication plan
q. All content required by OSHA and AHJs
r. Signature sheet signed by an Officer of the company and the Responsible Person onsite

C. Plan Approval
1. Submit APP for Owner's approval a minimum of 3 weeks prior to any work being performed.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Schedule meeting after Notice of Award.

B. Attendance Required:
1. Owner.
2. Architect.
3. Contractor.
4. Owner's Representative (if applicable).

C. Agenda:
1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
5. Submission of initial Submittal schedule.
6. Designation of personnel representing the parties to Contractor, Owner, Architect, and Owner's Representative (if applicable).

7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, change orders, and contract closeout procedures.
8. Scheduling.

D. Record minutes and distribute copies electronically to Architect, Owner, Owner's Representative (if applicable), participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.

B. Make arrangements for meetings, prepare agenda with electronic copies for participants (to be distributed 24 hours prior to meeting), preside at meetings.

C. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Special consultants.
5. Contractor's superintendent.
6. Major subcontractors.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of RFIs log and status of responses.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to work.

E. Record minutes and distribute electronic copies within two days after meeting to Architect, Owner, and participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

E. Submit updated construction schedule with each Application for Payment.

3.04 PROGRESS PHOTOGRAPHS

A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.

B. Photography Type: Digital; electronic files.

C. Provide high quality digital photographs of site and construction throughout progress of work, using the ACC photo application.

D. In addition to periodic, recurring views, take photographs of each of the following events:
   1. Excavations in progress.
   2. Foundations in progress and upon completion.
   3. Structural framing in progress and upon completion.
   4. Enclosure of building, upon completion.

3.05 REQUESTS FOR INFORMATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.

C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.

a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
b. Do not forward requests which solely require internal coordination between subcontractors.

2. Prepare in a format and with content acceptable to Owner.
   a. Use AIA G716-2004 - Request for Information.
3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
   2. Unacceptable Uses for RFIs: Do not use RFIs to request the following:
      a. Approval of submittals (use procedures specified elsewhere in this section).
      b. Approval of substitutions (see Section - 016000 - Product Requirements)
      c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
      d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
   3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.

E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
   1. Official Project name and number, and any additional required identifiers established in Contract Documents.
   2. Owner's, Architect's, and Contractor's names.
   3. Discrete and consecutive RFI number, and descriptive subject/title.
   4. Issue date and requested reply date.
   5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
   6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
   7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example, routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the

likely impact of the suggested resolution on Contract Time or the Contract Sum.

F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
   1. Indicate current status of every RFI. Update log promptly and on a regular basis.
   2. Note dates of when each request is made, and when a response is received.
   3. Highlight items requiring priority or expedited response.
   4. Highlight items for which a timely response has not been received to date.

H. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt, excluding SCF recognized holidays. For the purpose of establishing the start of the mandated response period, RFIs received after 2:00PM (Owner's local time) will be considered as having been received on the following regular working day.
   1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
   1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
   2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
   3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
   4. Notify Architect within seven calendar days, excluding SCF recognized holidays, if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.06 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.
   1. Format schedule to allow tracking of status of submittals throughout duration of construction.

2. Account for time required for preparation, review, manufacturing, fabrication, and delivery when establishing submittal delivery and review deadline dates.
   a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.07 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017000 – Execution and Closeout Requirements.

3.08 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.09 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:

1. Project record documents.
2. Operation and maintenance data.
3. Warranties.
4. Bonds.
5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.10 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.11 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Use a separate transmittal for each item.
   2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
   3. Transmit using approved form.
      a. Use Form AIA G810-2001.
   4. Identify each item based on applicable specification section. For revised submittals use original number and a sequential numerical suffix.
   5. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
   6. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
   7. Schedule submittals to expedite the Project, and coordinate submission of related items.
      a. For each submittal for review, allow 14 calendar days, excluding SCF recognized holidays.
      b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 calendar days.
      c. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 30 calendar days.

8. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
9. Provide space for Contractor and Architect review stamps.
10. When revised for resubmission, identify all changes made since previous submission.
11. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
12. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work and have received prior approval for their use.
13. Submittals not requested will not be recognized or processed.

B. Product Data Procedures:
1. Submit only information required by individual specification sections.
2. Collect required information into a single submittal.
3. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
2. Do not reproduce Contract Documents to create shop drawings.
3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Samples Procedures:
1. Transmit related items together as a single package.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.12 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Architect's and consultants' actions on items submitted for review:
1. Authorizing purchasing, fabrication, delivery, and installation:
   a. "Approved", or language with same legal meaning.
   b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
2. Not Authorizing fabrication, delivery, and installation:
   a. "Revise and Resubmit".
   b. "Rejected".

E. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "Received" - to notify the Contractor that the submittal has been received for record only.
   2. Items for which action was taken:
      a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
B. Section 00 52 13 – Agreement Form
C. Section 01 30 00 – Administrative Requirements
D. Section 01 70 00 – Execution and Closeout Requirements

1.02 DEFINITIONS

A. Request for Information (RFI): Request from Owner, Architect, or Contractor seeking information required by a clarification of the Contract Documents.

B. Architect's Supplemental Instructions (ASI): Information provided by Architect to clarify scope of work in Contract Documents.

1.03 PROJECT SCHEDULE

A. Provide a project schedule for approval by the Architect and Owner prior to starting work. The Project Schedule shall use the Critical Path Method "CPM" or other Owner approved method. The Schedule shall have adequate detail that provides information on the planned work and tasks and shall be relationship driven using either predecessor or successor relationships. The schedule shall be updated and submitted with every Application for Payment, and uploaded to Autodesk Construction Clout (ACC).

1.04 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications and with other contractors and entities that depend on each other for proper installation, connection, and operation to ensure efficient and orderly installation of each part of the Work.
   1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
   2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service,

and repair.

3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
   1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of Contractor's construction schedule.
   2. Preparation of the schedule of values.
   3. Installation and removal of temporary facilities and controls.
   4. Delivery and processing of submittals.
   5. Progress meetings.
   6. Preinstallation conferences.
   7. Startup and adjustment of systems.
   8. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
   1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.05 COORDINATION DRAWINGS

A. General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
   1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
      a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details

as needed to describe relationship of various systems and components.

b. Coordinate the addition of trade-specific information to the coordination drawings in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
c. Indicate functional and spatial relationships of components.
d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
f. Indicate required installation sequences.
g. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

1.06 KEY PERSONNEL

A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
   1. Post copies of list in project meeting room, in temporary field office, on Project Website**,** and by each temporary telephone. Keep list current at all times.

1.07 PROJECT MEETINGS

A. General: Contractor will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
Meeting agendas and notes shall utilize Autodesk Construction Cloud (ACC) software.
   1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
   2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.

3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within two days of the meeting.

B. Preconstruction Conference: Contractor will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 20 days after execution of the Agreement.
   1. Conduct the conference to review responsibilities and personnel assignments.
   2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
   3. Agenda: Discuss items of significance that could affect progress, including the following:
      a. Tentative construction schedule.
      b. Phasing.
      c. Critical work sequencing and long-lead items.
      d. Designation of key personnel and their duties.
      e. Lines of communications.
      f. Procedures for processing field decisions and Change Orders.
      g. Procedures for RFIs and ASIs.
      h. Procedures for testing and inspecting.
      i. Procedures for processing Applications for Payment.
      j. Distribution of the Contract Documents.
      k. Submittal procedures.
      l. Sustainable design requirements.
      m. Preparation of record documents.
      n. Use of the premises [and existing building if applicable].
      o. Work restrictions.
      p. Working hours.
      q. Owner's occupancy requirements.
      r. Responsibility for temporary facilities and controls.
      s. Procedures for moisture and mold control.
      t. Procedures for disruptions and shutdowns.
      u. Construction waste management and recycling.
      v. Parking availability.
      w. Office, work, and storage areas.
      x. Equipment deliveries and priorities.
      y. First aid.
      z. Security.
      aa. Progress cleaning.

C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
   1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
   2. Agenda: Review progress of other construction activities and preparations for the activity under consideration, including requirements for the following:
      a. Contract Documents.
      b. Options.
      c. Related RFIs and ASIs.
      d. Related Change Orders.
      e. Purchases.
      f. Deliveries.
      g. Submittals.
      h. Review of mockups.
      i. Possible conflicts.
      j. Compatibility problems.
      k. Time schedules.
      l. Weather limitations.
      m. Manufacturer's written recommendations.
      n. Warranty requirements.
      o. Compatibility of materials.
      p. Acceptability of substrates.
      q. Temporary facilities and controls.
      r. Space and access limitations.
      s. Regulations of authorities having jurisdiction.
      t. Testing and inspecting requirements.
      u. Installation procedures.
      v. Coordination with other work.
      w. Required performance results.
      x. Protection of adjacent work.
      y. Protection of construction and personnel.
   3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
   4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
   5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress and Coordination Meetings: Contractor will conduct progress meetings at appropriate intervals.
   1. Coordinate dates of meetings with preparation of payment requests.
   2. Attendees: Each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
   3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
      a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
         1) Review schedule for next period.
      b. Review present and future needs of each entity present, including the following:
         1) Interface requirements.
         2) Sequence of operations.
         3) Status of submittals and RFI’s
         4) Off-site fabrication and deliveries.
         5) Site access and utilization.
         6) Temporary facilities and controls.
         7) Progress cleaning.
         8) Quality and work standards.
         9) Status of correction of deficient items.
         10) Field observations.
         11) Status of proposal requests.
         12) Pending changes.
         13) Status of Change Orders.
         14) Pending claims and disputes.
         15) Documentation of information for payment requests.
   4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
      a. Schedule Updating: Revise Contractor's construction schedule

after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

E. Project coordination meetings are to be held weekly. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Submittals.
B. Quality assurance.
C. References and standards.
D. Testing and inspection agencies and services.
E. Control of installation.
F. Mock-ups.
G. Tolerances.
H. Manufacturers' field services.
I. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
B. Section 013000 - Administrative Requirements: Submittal procedures.
C. Section 014200 - Reference Standards and Definitions.
D. Section 016000 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

A. Note: If a newer version of any reference standard exists, the newer version shall be incorporated and followed in lieu of the older version referenced herein.
B. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2023).
C. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.
D. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2022a.

E. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

F. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.

G. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.

H. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components 2016.

I. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.

1.04 DEFINITIONS

A. Contractor's Quality Control Plan: Contractor's management plan for executing the Contract for Construction.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit one electronic copy of report to Architect, Owner, and Owner’s Representative.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Compliance with Contract Documents.
      k. When requested by Architect, provide interpretation of results.

C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, as specified for Product Data.
   1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

D. Manufacturer's Instructions: When specified in individual specification sections, submit electronic instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special

procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner/ Owner's Representative.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.06 QUALITY ASSURANCE

A. Contractor's Quality Control (CQC) Plan:
   1. Thirty days prior to start of work, submit a comprehensive plan describing how contract deliverables will be produced. Tailor CQC plan to specific requirements of the project. Include the following information:
      a. Management Structure: Identify personnel responsible for quality. Include a chart showing lines of authority.
      b. Management Approach: Define, describe, and include in the plan specific methodologies used in executing the work.
         1) Management and control of documents and records relating to quality.
         2) Communications.
         3) Coordination procedures.
         4) Resource management.
         5) Process control.
         6) Inspection and testing procedures and scheduling.
         7) Control of noncomplying work.
         8) Tracking deficiencies from identification, through acceptable corrective action, and verification.
         9) Control of testing and measuring equipment.
         10) Project materials certification.
         11) Managerial continuity and flexibility.
      c. Owner will not make a separate payment for providing and maintaining a Quality Control Plan. Include associated costs in Bid price.
      d. Acceptance of the plan is required prior to start of construction activities not including mobilization work. Owner's acceptance of the plan will be conditional and predicated on continuing satisfactory adherence to the plan. Owner reserves the right to require Contractor to make changes to the plan and operations, including removal of personnel, as necessary, to obtain specified quality of work results.

B. Quality-Control Personnel Qualifications. Engage a qualified person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project. QC personnel may be subject to SCF approval.

1.07 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.08 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Owner will employ and pay for services of an independent testing agency to perform other specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Architect will use to inspect against and to determine the acceptability of Work yet to be completed.

C. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

D. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

E. Architect will use accepted mock-ups as a comparison standard for the remaining Work.

F. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect. Confirm with Architect and Owner prior to removal of mock-up.

3.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 TESTING AND INSPECTION

A. Testing Agency Duties:
   1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified standards.

3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
5. Perform additional tests and inspections required by Architect.
6. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:
1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
a. To provide access to Work to be tested/inspected.
b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
c. To facilitate tests/inspections.
d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.05 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment, as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.06 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

SECTION 01 40 10
CLEAN CONSTRUCTION PROCEDURES

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Clean Construction procedures, policies, and best practices and requirements.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

1.03 PURPOSE

A. To outline the process for selecting and implementing proper controls to reduce risk and to minimize impact of construction or renovation activities throughout Southcentral Foundation (SCF) facilities.

1.04 SCOPE

A. This applies to all direct hire employees, Civil Service and Commissioned Corps Officers working under contractual agreements with Southcentral Foundation (SCF) and volunteers. Individuals and business entities that have entered into contractual agreements with Southcentral Foundation (SCF) are not exempt, unless otherwise stated in their contracts.

1.05 DEFINITIONS

A. Customer-owner: Individuals who seek and receive services at SCF's programs and departments. The following terms may be used by SCF programs and departments in referring to customers:
   1. Patients
   2. Residents
   3. Students
   4. Members
   5. Beneficiaries
   6. Guests
   7. Event Participants
   8. Clients

B. Infection Control Risk Assessment (ICRA) – A risk assessment tool that incorporates the facility's customer-owner population and type of

construction work to reduce the risk of infection through phases of facility planning, design, construction, renovation, and maintenance.

1.06 PROCEDURE

A. The Clean Construction Procedure with the accompanying Infection Control Risk Assessment (ICRA) Construction Permit will apply to all projects, including small construction and maintenance work.

B. The ICRA will be implemented in the planning phase of each project and will be assessed by the Manager of Facilities or designee, in consultation with the Project Manager, Safety Manager and Quality Assurance (QA) Nurse Manager or designee.

C. The Manager of Facilities or designee will provide updated documentation of the risk assessment throughout planning, design, and construction.

D. Performance Standards
   1. ICRA will be initiated and maintained by the Manager of Facilities or designee, in consultation with the QA Nurse Manager or designee, and Safety Manager at all appropriate construction sites and areas with Infection Control (IC) deficiencies.
   2. Selected ICRA will be monitored by the Manager of Facilities in consultation with the QA Nurse Manager or designee, Safety Manager and Security Officers on weekends and holidays.
   3. The Manager of Facilities or designee, will provide briefings to the affected employees, including construction workers, to inform the staff of the particular ICRA for areas where they work.

E. Manager of Facilities Responsibilities:
   1. The Manager of Facilities in consultation with the QA Nurse Manager or designee and the Safety Manager will select and implement appropriate infection control measures/actions for existing hazards that violate infection control standards and/or guidelines.
   2. The Manager of Facilities or designee will ensure the ICRA measures/actions are maintained and enforced.
      a. The Manager of Facilities or designee will consult with the QA Nurse Manager or designee and the Safety Manager for all Type C and Type D projects as defined in this procedure.
   3. The Manager of Facilities or designee will ensure that ICRA measures/actions are incorporated into all contractor negotiations and contracts.
   4. The Manager of Facilities or designee will ensure that contractors and maintenance employees adhere to the implemented ICRA measures/actions.

5. Contractors are responsible for training their employees and enforcing ICRA measures/actions with their employees.
6. Employees are responsible for adhering to established ICRA measures/actions and for reporting any violations of this procedure to the Manager of Facilities or designee.

F. Project Assessment
1. Each project will be assessed for risk during the planning phase by Facilities.
   a. The project will be assigned a risk group to include employees from Corporate QA, Facilities, and the affected program and will be matched with a project type that will determine a class of precautions to be implemented.
2. The class of precautions will be determined by using the Type of Work Matrix described in this procedure.
3. Type of Projects (Work)
   a. Type A (Minor) - Inspection and non-invasive projects including, but not limited to:
      a) Removal of ceiling tiles for visual inspection
      b) Painting with no sanding
      c) Wall covering
      d) Electrical trim work
      e) Minor plumbing and
      f) Other activities that do not generate dust
   b. Type B (Maintenance) – Short duration / minimal dust projects which include, but are not limited to:
      a) Setting brackets
      b) Hanging items
      c) Cutting of walls or ceilings where dust migration can be controlled to the immediate work area and the duration is less than one (1) work shift
      d) Cutting of walls or ceilings where dust migration can be controlled, and the duration is less than one (1) work shift
   c. Type C (Moderate) – Short duration / minor dust projects, including, but is not limited to:
      a) Sanding
      b) Removal of floor coverings, ceiling tiles, and casework
      c) New wall construction
      d) Minor duct work or electrical work above the ceiling
      e) Major cabling activities

d. Type D (Major) – Projects that generate dust or require demolition of fixed building components which include, but are not limited to:
   a) Activities which require consecutive work shifts
   b) Require heavy demolition and/or removal of a complete cabling system
   c) New construction

4. Type of Area
   a. Low Risk:
      a) Plant area and other areas not intended for customer-owner use
      b) Warehouse
      c) Office areas

   b. Medium Risk:
      a) Physical Therapy
      b) Radiology
      c) Outpatient Clinics (not including office areas)
      d) Dental Clinics
      e) Pharmacy
      f) Employee Family Center
      g) Living quarters at residential treatment programs
      h) Food service or kitchen areas

   c. High Risk:
      a) Endoscopy
      b) Laboratory

   d. Highest Risk
      a) Dental Sterile Processing

5. Risk Group Classifications

Risk Group Classification	Type A	Type B	Type C	Type D
Low Risk	I	I/II	II	III/IV
Medium Risk	I	I/II	III	IV
High Risk	I	I/II	III/IV	IV
Highest Risk	I/II	III/IV	III/IV	IV

Note: Infection Control approval will be required when the construction activity and risk level indicate that Class III or Class IV control procedures are necessary.

6. Infection control measure based on class:

	During Construction Project	Upon Completion of Project
Class I	1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace any ceiling tile displaced for visual inspection.	1. Clean work area upon completion of work.
Class II	1. Provide active means to prevent air-borne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with tape. 4. Block off and seal air vents. 5. Remove or isolate heating, ventilation, and air conditioning (HVAC) system in areas where work is being performed.	2. Wipe work surfaces with disinfectant. 3. Contain construction waste before transport in tightly covered containers. 4. Wet mop and/or vacuum with High-Efficiency Particulate Air (HEPA) filtered vacuum before leaving work area. 5. Remove isolation of HVAC system in areas where work is being performed.
Class III	1. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within the work site utilizing HEPA equipped air filtration units. 4. Contain construction waste before transport in tightly covered containers. 5. Cover transport receptacles or carts. Tape covering unless solid lid.	1. Do not remove barriers from work area until completed project is inspected by the Manager of Facilities, Safety Manger and QA Nurse Manager or designee, and is thoroughly cleaned by housekeeping. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with disinfectant. 5. Remove isolation of HVAC system in areas where work is being performed.

Class IV	1. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Seal holes, pipes, conduits, and punctures appropriately. 5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site. 6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. 7. Do not remove barriers from the work area until completed project is inspected by owner's Safety Department and Infection Control Department and thoroughly cleaned by owner's Environmental Services Department.	1. Do not remove barriers from work area until completed project is inspected by the Manager of Facilities, Safety Manager and QA Nurse Manager or designee, and is thoroughly cleaned by Environmental Services Department. 2. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. 3. Contain construction waste before transport in tightly covered containers. 4. Cover transport receptacles or carts. Tape covering unless solid lid. 5. Vacuum work area with HEPA filtered vacuums. 6. Wet mop area with disinfectant. 7. Remove isolation of HVAC system in areas where work is being performed.

7. Environmental monitoring:
   a. The Manager of Facilities will conduct field inspections at any time during the life of the project with the assistance of the QA Nurse Manager or designee and Safety Manager.
   b. The Manager of Facilities will monitor air quality throughout project as needed.

8. Implementation of Infection Control Measures
   a) Temporary construction barriers and closures will be dust-tight.
   b) Removal of debris will be in tightly covered containers.
   c) Adhesive walk-off mats will be placed at all entrances to work site, as needed.
   d) Any dust tracked outside of the barrier will be removed immediately.

e) Any ceiling access panels opened for investigation beyond sealed areas will be replaced immediately when unattended.
f) Block off all ventilation and return ducts within the construction area.
g) Method of capping ducts will be dust tight and airflow to those devices will be shut off (either with the direct digital control (DDC) and/or damper).
h) Removal of construction barriers and ceiling protection will be done carefully.
i) Vacuum and clean all surfaces free of dust after the removal.
j) Housekeeping will be notified to do a follow up cleaning of the area.
k) When access panels are opened in occupied areas requiring protection, for work above ceilings, use a polyethylene enclosure around ladder, sealing off opening.
l) The device will be fitted/sealed tightly to the ceiling and floor per manufacturers' instructions.

9. Enforcement of Infection Control Measures
   a. The Manager of Facilities, QA Nurse Manager or designee, or Safety Manager may stop the work if this procedure is violated.
      a) Work will not resume until a ll violations of this procedure are corrected and verified in writing.
   b. The Manager of Facilities will record the following:
      a) Document each violation with photographs and written reports
      b) Extract contractor or department information from the work log
      c) Maintain a record of all infection control violations
   c. Violations of this procedure may affect status as a responsible contractor for bidding future work.

1.07 REFERENCES

A. Attachment A – Specification Section 01 40 10.01 – Infection Control Risk Assessment Construction Permit.

B. Facility Guidelines Institute, Guidelines for Design and Construction of Healthcare Facilities (2022).

END OF SECTION

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (**ILSM**) Infection Prevention and Control (**ICRA**) Interim Utility System Measures (**IUSM**)

*This form is an evaluation tool and **NOT** intended to replace required project, compliance, or safety documentation.*

Instructions: Please complete the entire form and submit to the Project Manager, SCF Facilities, and SCF Safety for review and approval. ILSM, ICRA, and IUSM approvals may require multiple steps and can take more than a week to approve, so plan accordingly. To expedite, consider attaching supporting documentation. Risk assessment should identify specific mitigation methods for each phase of the project. Utilize the clarification section to identify the applicability of additional forms (i.e. Demo higher ICRA need than finishing work)

Once approved and signed; display and hang a copy at the work site to be available upon request.

Section 1: General Project Information – ***required section*** –		**Anticipated project date range:**		**Today's Date:**	
Submitted By (name & company)		**Start Date:**		**Estimated End Date:**	
Project Manager (name & contact #):		**Impacted Department(s)** (list all that apply):			
Contractor Contact (name & contact #):		**Impacted Department(s)** Contact #:			
Appointed Site Safety Officer (name & contact #)		**Adjacent Department(s)** (list all that apply):			
Life Safety Occupancy (business, hospital, etc.):	Business	**Anticipated Accreditation or Regulatory Surveys:**			

Important Contacts:	SCF Security: 907.729.5700	SCF Safety: 907.575.8006	Infection Control: 907.570.6475

Construction Project Type Assessment – Circle Class

Risk

Each project is assessed by assigning a risk group and project type to determine infection prevention precautions required during project. Clean Construction Procedure #805-03 **Infection Control Permit and Class Procedures provided below, PM signature required.**

	Activity			
	Type A	**Type B**	**Type C**	**Type D**
LOW RISK	Class I	Class II	Class II	Class III/IV
MEDIUM RISK	Class I	Class II	Class III	Class IV
HIGH RISK	Class I	Class II	Class III/IV	Class IV
HIGHEST RISK	Class II	Class III/IV	Class III/IV	Class IV

Type A	**Type B**	**Type C**	**Type D**
Inspection and noninvasive activities such as: • Removal of ceiling tiles for visual inspection only, limited to one tile per 50 square feet • Painting (without sanding) • Wall covering replacement • Electrical trim work • Minor plumbing • Activities without dust	**Small-scale, short-duration activities that create minimal dust:** • Includes, but is not limited to: • Setting brackets • Hanging items • Cutting of walls or ceiling where dust migration can be controlled to the immediate work area and the duration is less than one shift	**Work that generates moderate to high level of dust or requires demolition, or removal of any fixed building components or assemblies:** • Removal of floor/wall coverings, ceiling tiles, or casework • Cutting walls or ceilings where dust migration can be controlled and the duration is less than one work shift • Minor duct work or electrical work above ceilings • Major or invasive cabling activities • New wall construction	**Major demolition and construction projects:** • Removal of floor/wall coverings, ceiling tiles, and casework • Cutting of walls or ceilings where dust migration can be controlled and the duration is less than one shift • Minor duct work or electrical work above ceilings • Major or invasive cabling activities • New wall construction
Low Risk Areas	**Medium Risk Areas**	**High Risk Areas**	**Highest Risk Areas**
• Plant areas • Supply areas • Office areas not near patient care • Areas not intended for patient use	• Outpatient clinics ***(not specified in high or highest risk category)*** • Cardiology • Dental • Echocardiography • Physical Therapy • Radiology/MRI • Respiratory Therapy • Outpatient Pharmacy	• Emergency Room/Fast Track • Laboratory • Maternal Child (Labor & Delivery) • Newborn Nursey • Outpatient Surgery (Day Surgery) • Inpatient Pharmacy (non-compounding) • Corridors in high risk areas	• Operating rooms; including C-Section • Central Supply/Sterile Processing Department • Intensive Care Units • Endoscopy • Negative Pressure Isolation Rooms • Oncology • Areas immune-compromised patients.

Infection Prevention & Control Requirements	Identified Risk or Hazard				Req'd	Additional info.
Evaluation Required – accredited campus	YES	NO	N/A	Completed Infection Control Risk Assessment (ICRA) – IC signature required for Class III & IV projects	ICRA/ Class	Coordinate w/ Infection Control (IC)
	YES	NO	N/A	Airborne infection isolation room(s) impacted	ICRA	Coordinate with IC and department
	YES	NO	N/A	Temporary dust-tight construction barriers	ICRA	Coordinate with IC and department
	YES	NO	N/A	Construction waste transport and disposal	ICRA	Walk-off mats, covered carts, etc.
	YES	NO	N/A	Domestic water system be impacted	ICRA	Reference ANMC procedure #801-07
	YES	NO	N/A	Potential worker exposure to infectious diseases	ICRA	Coordinate with IC and department
	YES	NO	N/A	Immune-compromised patients in area or nearby	ICRA	Coordinate with IC and department

Life Safety Requirements	Identified Risk or Hazard Select YES if any of the risks or hazards apply and proceed with requirements.				Req'd	Additional info.
Evaluation Required – accredited campus	YES	NO	N/A	Completed assessment for Interim Life Safety Measures (ILSM) – ILSM form, signatures required	ILSM	Complete ILSM assessment with required signatures.
	YES	NO	N/A	Fire alarm or sprinkler system impaired (e.g. out of service, disabled smoke detector(s) or sprinkler(s))	ILSM	Evaluate for Fire Watch and complete form as needed
	YES	NO	N/A	Alternate egress required - block or obstruct exits (exit signs, >6" corridor projections, evacuation plans)	ILSM	Review Life Safety Plans, post fire safety response plan for contractor and employees; document education
	YES	NO	N/A	Temporary smoke-tight construction partitions (e.g. occupied spaces)	ILSM	
	YES	NO	N/A	Fire or smoke barrier penetration (e.g. missing ceiling tiles, doors, walls)	ILSM	Evaluate for Fire Watch and complete form as needed
	YES	NO	N/A	Above ceiling work (i.e. penetrations, cabling, debris, broken tiles)	ILSM	Evaluate for ILSM
	YES	NO	N/A	Storage of supplies and waste required (e.g. flammable or combustible materials, debris, dust, waste)	ILSM	Evaluate for ILSM
	YES	NO	N/A	Hot work including fire or spark producing (e.g. welding, grinding metal, soldering)	ILSM	Complete hot work permit, post copy at site where work is taking place
	YES	NO	N/A	Evaluate for Fire Watch needs for project	ILSM	Evaluate for ILSM
				Structural fire proofing		Evaluate for ILSM

Utility Systems Requirements	Identified Risk or Hazard Select YES if any of the risks or hazards apply and proceed with requirements.				Req'd	Additional info.
Evaluation Required – accredited campus	YES	NO	N/A	Electricity interruptions	IUSM	Evaluate for interim utility measures (IUSM) & required coordination.
	YES	NO	N/A	Water interruptions	IUSM	Evaluate for IUSM and develop water damage prevention plan.
	YES	NO	N/A	Heating Ventilation Air Conditioning interruptions	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Medical gas	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Pneumatic Tube	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Suction	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Networking, data systems, or telecommunications	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Cabling – requiring pass through walls or ceilings	IUSM/ **ILSM**	Evaluate for IUSM & **ILSM**
	YES	NO	N/A	Other systems – nurse call, overhead paging,	IUSM	Evaluate for IUSM & coordination
				Potential worker exposure to infectious diseases	IUSM/ **ICRA**	Evaluate for IUSM & **ICRA**

Safety Requirements	Identified Risk or Hazard Select YES if any of the risks or hazards apply and proceed with requirements.				Req'd	Additional info.
Evaluation Required – ALL PROJECTS	YES	NO	N/A	Communication Plan (notification to construction team, impacted areas, and staff)		Post required signage and notify impacted staff
	YES	NO	N/A	Noise or vibration in area or nearby (special considerations required for NICU/Peds and inpatient areas)		Coordinate with impacted Department(s)
	YES	NO	N/A	Hazardous Materials & Waste (considerations for hazards and PPE - odors, fumes, VOC, corrosives)		Review Safety Data Sheet (SDS) & OSHA requirements, keep SDS on site
	YES	NO	N/A	Biohazardous Waste (considerations for disposal and proper PPE per OSHA 1910.1030)		Evaluate for compliance with OSHA 1910.1030 and ANMC Procedures
	YES	NO	N/A	Construction Site Safety (e.g. falling objects, tripping hazards, fall protection, PPE)		Appoint Site Safety Officer
	YES	NO	N/A	Motorized equipment (e.g. forklift, scissors lift, crane)		Evaluate for specific requirements including competency/training
	YES	NO	N/A	Relocate occupants (e.g. patients, staff, classes, meetings, etc.)		Coordinate with impacted Department(s)
	YES	NO	N/A	Confined Space entry required		Evaluate for confined space requirements per OSHA
	YES	NO	N/A	Scaffolding or working on elevated surfaces		Evaluate for fall protection requirements per OSHA

Security Requirements	Identified Risk or Hazard Select YES if any of the risks or hazards apply and proceed with requirements.				Req'd	Additional info.
Evaluation Required – accredited campus	YES	NO	N/A	Access Control (e.g. ID badge access, physical keys, disable security systems)		
	YES	NO	N/A	High Security Considerations (e.g. perimeter, medications, medical records, IT, HR files, etc.)		PM to coordinate with departments, Security, and Control Room
	YES	NO	N/A	Medication Safety and Security (i.e. unsecure doors/walls/ceilings, moving Pyxis, waste)		PM coordinate with Pharmacy/Dept.
	YES	NO	N/A	Other security measures (explain):		PM to coordinate with departments, Security, and Control Room
	YES	NO	N/A			

Additional Information or Requirements:

PCRA Signatures

Reviewed and signed by at least the Health Facilities, ANMC Safety, and Infection Control. At a minimum a copy of the signed form should be provided to the Department Director, Security, and affected areas and available at the worksite.

Facilities/ Projects print name and signature:	**Infection Control print name and signature:**
Date:	Date:
	Signature of SCF Safety (as applicable):
	Date:

Infection Control Constructions Permit – Project Requirements by Class as designated on the PCRA		
	During Project	Upon Completion of Project
Class I	• Execute work by methods to minimize raising dust from construction operations • Immediately replace a ceiling tile displaced for visual inspection	• Clean work area upon completion of task
Class II	• Provide active means to prevent airborne dust from dispersing into the atmosphere • Water mist work surfaces to control dust while cutting • Seal unused doors with duct tape • Block off and seal air vents • Place dust mat at entrance and exit of work area • Remove or isolate HVAC system in areas where work is being performed	• Wipe work surfaces with cleaner/disinfectant • Contain construction waste before transport in tightly covered containers • Wet mop and/or vacuum with high-efficiency particulate air (HEPA) filtered vacuum before leaving work area • Upon completion, restore HVAC system where work was performed
Class III	• Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system • Complete all critical barriers, e.g., sheetrock, plywood, plastic to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. • Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units • Contain construction waste before transport in tightly covered containers • Cover transport receptacles or carts. Tape covering unless lid is solid.	• Do not remove barriers from work area until completed project is inspected by the Infection Control or Safety Officer or representative and they are thoroughly cleaned by EVS staff. • Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. • Vacuum work area with HEPA-filtered vacuums. • Wet mop area with cleaner/disinfectant. • Upon completion, restore HVAC system where work was performed.
Class IV	• Isolate HVAC system in area where work is being done to prevent contamination of duct system. • Complete all critical barriers, e.g. sheetrock, plywood, plastic to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. • Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units • Seal holes, pipes, conduits, and punctures. • Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or have them wear cloth or paper coveralls that are removed each time they leave work site. • All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area.	• Do not remove barriers from work area until completed project is inspected by the Infection Control or Safety Officer or representative and they are thoroughly cleaned by EVS staff. • Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. • Contain construction waste before transport in tightly covered containers. • Cover transport receptacles or carts. Tape covering unless solid. • Vacuum work area with HEPA-filtered vacuums. • Wet mop area with cleaner/disinfectant. • Upon completion, restore HVAC system where work was performed.

Additional Information or Requirements (additional measures being taken to mitigate infection control measures):	
Infection Control print name and signature:	**Facilities/ Projects print name and signature:**
Date:	Date:

Instructions: PM to ensure the below answers are provided for each ILSM. For any "YES" answers, indicate the duration of the measure and review the, the "Implemented ILSM" column details the minimum required ILSM. Unless otherwise noted, the PM is responsible to implement all required ILSMs. Blank rows are provided to allow additional ILSMs as required for the safety of patients and staff and the preservation of the facility. ***Include drawings to show the affected area and where specific ILSMs will be implemented.*** PM to obtain proper review and approvals prior to beginning work.

Measure	ILSM Evaluation			Duration of ILSM dates/phase(s)	Implemented ILSM
1.	Will a fire alarm system be out of service for more than 4 hours in a 24-hour period?	YES	NO		Director of Facilities, or designee, will notify the fire department and other emergency response services. PM to initiate Fire Watch and document according to fire watch procedure and forms. To the extent possible the detectors will be disabled and covered during work hours but enabled during non-work hours as fully functional.
2.	Will the fire sprinkler system be out of service for more than 10 hours in a 24-hour period?	YES	NO		Director of Facilities, or designee, will notify the fire department and other emergency response services. PM to initiate Fire Watch and document according to fire watch procedure and forms.
3.	Will exit accesses, exits, or exit discharges be blocked?	YES	NO		Post signs identifying alternate exits for impacted personnel. Impacted personnel will follow procedures for ILSM evacuation and emergency response. Remaining means of egress shall be maintained at all times and inspected at least daily using the PCRA Inspection Checklist which will be kept in the project folder and at the work site.
4.	Will an exit access, exit, or exit discharge be obstructed?	YES	NO		Remaining means of egress shall be maintained at all times and inspected at least daily using the PCRA Inspection Checklist which will be kept in the onsite project folder. Considerations should include patient and support equipment movement
5.	Will fire alarm and detection systems be impaired in an unoccupied room?	YES	NO		Temporary fire alarm/detection systems shall be provided in the affected space and must be approved by the Director of Facilities or designee. Temporary systems will be tested and inspected monthly. Affected/nearby staff will be trained to recognize and respond to an alarm from the temporary fire system. Documentation kept with the onsite project folder.)
6.	Will hot work be required?	YES	NO		The Director of Facilities or designee will provide an additional portable fire extinguisher that will be kept in the construction area. Construction personnel will be provided training on the fire extinguishing equipment. Complete hot work permit. Initiate fire watch. Document according to fire watch procedure.
7.	Will the work area contain or be used to store excessive flammable material?	YES	NO		The Director of Facilities or designee will provide an additional portable fire extinguisher that will be kept in the area. Affected personnel will be provided training on the fire extinguishing equipment.
8.	Will the existing smoke compartment boundary, corridor construction, or other fire barriers be impaired/ degraded and the duration of the project be less than or equal to 5 calendar days?	YES	NO		**Business** Occupancy:
		YES	NO		**Ambulatory** Occupancy:
		YES	NO		**Other** Occupancy:

Instructions: PM to ensure the below answers are provided for each ILSM. For any "YES" answers, indicate the duration of the measure and review the, the "Implemented ILSM" column details the minimum required ILSM. Unless otherwise noted, the PM is responsible to implement all required ILSMs. Blank rows are provided to allow additional ILSMs as required for the safety of patients and staff and the preservation of the facility. ***Include drawings to show the affected area and where specific ILSMs will be implemented.*** PM to obtain proper review and approvals prior to beginning work.

Measure	ILSM Evaluation			Duration of ILSM dates/phase(s)	Implemented ILSM
9.	Will the existing smoke compartment boundary, corridor construction, or other fire barriers be impaired/degraded and the duration of the project be greater than 5 calendar days?	YES	NO		
10.	Will the existing ceiling or wall smoke barriers be impaired/degraded?	YES	NO		
11.	Will construction activity include excavations, hazardous storage areas, or site conditions that have potential to significantly impact life safety of patients or staff?	YES	NO		
12.	Will activity significantly increase the flammable and combustible fire loading in non-hazardous spaces?	YES	NO		
13.	Additional ILSM Considerations (as needed):	YES	NO		
14.	Additional ILSM Considerations (as needed):	YES	NO		

Additional Information or Requirements:	
Safety print name and signature:	**Facilities/ Projects Representative print name and signature:**
Date:	Date:

Instructions: Understanding that fire watch planning and implementation will require multiple steps, SCF Project Managers (PM) will coordinate at least 48 hours in advance when possible. A copy of the signed form(s) will be kept in the project file and made available upon request.

Signed and completed fire watch checklist must be routed to Safety (scfsafety@scf.cc) and the Facilities Project Manager.

Section 1: Fire Watch Requirements - Completed by SCF Project Manager – all fields required

Type of work (check all that apply):	☐ Hot Work ☐ Fire Alarm System Impairment ☐ Sprinkler System Impairment ☐ Smoke or Fire Barrier Impairment ☐ OTHER (explain):		
Building/ floor/ department/ room:			
Describe specific location and expected fire watch coverage:	-		
Project Manager Name with phone #, and email:	**Name:**	**Phone #:**	**Email:**
Expected Dates for planning and scheduling (estimated start and end date):	**Date From:**	**Date To:**	**Frequency/ interval (30 min, 60 min, 120 min):**

Section 2: Fire Watch Project Information

1.	Project Manager will provide ILSM and fire watch checklist as handoff to SCF Security.	Direct all questions to Project Manager
2.	SCF Security will: - Review ILSM, fire watch requirements, and documents. - Complete fire watch duties according to the frequency required and until notified work is complete. - Document fire watch checks on the attached log and submit to SCF Safety. - Know location of nearest fire extinguisher and alarm pull station in the fire watch area. - Activate Code Red emergency procedures immediately if smoke or fire is suspected or confirmed.	Direct all questions to Supervisor, Project Manager, and/or Facilities Manager.

Printed Name and Signature of Project Manager (or designee):

Date:

Forward signed copy to: SCF Safety (scfsafety@scf.cc)

Floorplan and additional information as needed:

Instructions: PM to ensure the below answers are provided for each utility system. For any "YES" answers, indicate the duration of the measure and review the "Implemented IUSM" column details for the minimum requirements. Unless otherwise noted, the PM is responsible to implement all required IUSMs. Blank rows are provided to allow additional IUSMs as required for the safety of patients and staff and the preservation of the facility. PM to obtain proper review and approvals prior to beginning work.

Interim Utility System Measures (IUSM)

All permits, risk assessments, mitigating measures and procedures shall be in place before work begins.

Measure	IUSM Evaluation			Duration of IUSM dates/phase(s)	Implemented IUSM
1.	Domestic Water	YES	NO		Complete **ICRA** & **ILSM**. Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
2.	Electrical	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
3.	Emergency Power	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
4.	Fire Detection	YES	NO		Complete **ILSM** and evaluate for Fire Watch Contact information for person performing work:
5.	Fire Suppression	YES	NO		Complete **ILSM** and evaluate for Fire Watch Contact information for person performing work:
6.	HVAC	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
7.	Medical Gas	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
8.	Pneumatic Tube	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
9.	Suction	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
10	Other (explain):	YES	NO		Explain: Contact information for person performing work:

Completed by:		Date:	

Forward IUSM copy to: Safety (scfsafety@scf.cc)

SECTION 01 41 00
REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project are the following:

B. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.

C. ADA Standards - 2010 ADA Standards for Accessible Design 2010.

D. 29 CFR 1910 - Occupational Safety and Health Standards Current Edition.

E. NFPA 101 - Life Safety Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments, Supplements, and codes referenced herein.

F. NFPA 99 – Health Care Code

G. FGI Guidelines – 2022 Facility Guidelines Institute for Design and Construction.

H. IFC – International Fire Code – Current guidelines adopted by the State of Alaska.

I. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

B. Section 005213 – Agreement Form.

C. Section 014000 - Quality Requirements.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 42 00
REFERENCE STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
B. Section 005213 – Agreement Form.
C. Construction Drawings, Technical Specifications, Architect's Supplemental Instructions, Requests for Information, and Addenda.

1.02 SECTION INCLUDES

A. Use of references in Drawings and Specifications, including requirements for copies of reference standards at Project site.
B. Definitions and terms used in Specifications and Drawings, including abbreviations, acronyms, names, and terms which may be used in Specifications.

1.03 DEFINITIONS

A. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

B. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."

C. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown" "noted," "scheduled," and "specified" have the same meaning as "indicated."

D. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

E. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

F. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working

to dimension, finishing, curing, protecting, cleaning, and similar operations.

G. “Provide”: Furnish and install, complete and ready for the intended use.

H. “Project Site”: Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.04 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated. Comply with standard dates referenced in the International Building Code (IBC).

C. Copies of Standards: Each entity engaged in construction on Project shall be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
   1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.

D. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the specification section.

1.05 USE OF REFERENCES

A. References: The Drawings and Specifications contain references to various standards, standard specifications, codes, practices and requirements for products, execution, tests and inspections. These reference standards are published and issued by the agencies, associations, organizations and societies listed in this Section or identified in individual product specification Sections.

   1. Wherever term "Agency" occurs in Standard Specifications, it shall be understood to mean the term used for Southcentral Foundation for purposes of the Contract.

2. Wherever term "Engineer" occurs in Standard Specifications, it shall be understood to mean Architect or other responsible design professional for purposes of the Contract.

3. Where reference is made to Standard Details, such reference shall be to the Standard Details accompanying the Standard Specifications.

B. Relationship to Drawings and Specifications: Such references are incorporated into and made a part of the Drawings and Specifications to the extent applicable.

C. Referenced Grades Classes and Types: Where an alternative or optional grade, class or type of product or execution is included in a reference but is not identified on the Drawings or in the Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.

D. Copies of Reference Standards:

1. Reference standards are not furnished with the Drawings and Specifications because it is presumed that the Contractor, subcontractors, manufacturers, suppliers, trades, and crafts are familiar with these generally recognized standards of the construction industry.

2. Copies of reference standards may be obtained from publishing sources.

E. Jobsite Copies:

1. Contractor shall obtain and maintain at the Project site copies of reference standards identified on the Drawings and in the Specifications in order to properly execute the Work.

2. At a minimum, the following shall be readily available, as applicable to the Work:
   a. State Building Codes: As referenced in Section 01 41 00 - Regulatory Requirements.
   b. Safety Codes: Occupational Safety and Health Act (OSHA) regulations and local and state Safety requirements and regulations.
   c. General Standards:
      1) Underwriters Laboratories, Inc. (UL) Building Products Listing.
      2) Factory Mutual Research Organization (FM) Approval Guide.
      3) American Society for Testing and Materials (ASTM) Standards in Building Codes.
      4) American National Standards Institute (ANSI) standards.
   d. Fire and Life Safety Standards: All referenced standards pertaining to fire rated construction and exiting.

e. Common Materials Standards: American Concrete Institute (ACI), American Institute of Steel Construction (AISC), American Welding Society (AWS), Gypsum Association (GA), National Fire Protection Association (NFPA), and Tile Council of America (TCA) standards to the extent referenced within the Contract Specifications.
f. Product Listings: Approval documentation, indicating approval of authorities having jurisdiction for use of product within the applicable jurisdiction.

F. Edition Date of References:
1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition enforced by the Authorities Having Jurisdiction as of the date of the Agreement, Contract Drawings and Contract Specifications.

2. All amendments, changes, errata, and supplements as of the effective date shall be included.

G. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that the Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.06 DEFINITIONS OF TERMS

A. Basic Contract Definitions: Words and terms governing the Work are defined in the Contract General and Supplementary Conditions, as referenced in the Agreement.

B. Words and Terms Used on Drawings and in Specifications: Additional words and terms may be used in the Drawings and Specifications and are defined as follows:

1. "Applicable:" As appropriate for the particular condition, circumstance or situation.

2. "Approve(d):" Approval action shall be limited to the duties and responsibilities of the party giving approval, as stated in the Conditions of the Contract. Approvals shall be valid only if obtained in writing and shall not apply to matters regarding the means, methods, techniques, sequences and procedures of construction. Approval shall not relieve the Contractor from responsibility to fulfill Contract requirements.

3. "And/or:" If used, shall mean that either or both of the items so joined are required.

4. "Directed:" Limited to duties and responsibilities of the Southcentral Foundation's Representative or Architect as stated in the Contract General Conditions, meaning "as instructed by SCF's Representative or Architect, in writing, regarding matters other than the means, methods, techniques, sequences and procedures of construction. Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by SCF's Representative or Architect", "requested by the SCF's Representative or Architect", and similar phrases. No implied meaning shall be interpreted to extend the responsibility of the SCF's Representative, Architect or other responsible design professional into the Contractor's supervision of construction.

5. "Equal" or "Equivalent:" As determined by Architect or other responsible design professional as being equivalent, considering such attributes as durability, finish, function, suitability, quality, utility, performance, and aesthetic features.

6. "Furnish:" Means "supply and deliver, to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."

7. "Indicated:" The term indicated refers to graphic representations, notes, or schedules on the Drawings, or other Paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as "shown", "noted", "scheduled", and "specified" are used to help the reader locate the reference. There is no limitation on location.

8. "Install:" Describes operations at the Project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

9. "Installer:"
    a. "Installer" refers to the Contractor or an entity engaged by the Contractor, such as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
    b. "Experienced Installer:" The term "experienced," when used with "installer" means having a minimum of 5 previous Projects similar in size to this Project, knowing the precautions necessary to perform the Work, and being familiar with requirements of authorities having jurisdiction over the Work.

10. "Jobsite:" Same as site, Area of Work, or other similar term referencing the physical property where the work is to be carried out upon.

11. "Necessary:" With due considerations of the conditions of the Project and as determined in the professional judgment of the Architect or other responsible

design professional as being necessary for performance of the Work in conformance with the requirements of the Contract Documents, but excluding matters regarding the means, methods, techniques, sequences, and procedures of construction.

12. "Noted:" Same as "Indicated."

13. "Per:" Same as "in accordance with," "according to" or "in compliance with."

14. "Products:" Material, system or equipment.

15. "Project Site:" Same as "Site." See definition of “Jobsite” above.

16. "Proper:" As determined by the Architect or other responsible design professional as being proper for the Work, excluding matters regarding the means, methods, techniques, sequences, and procedures of construction, which are solely the Contractor's responsibility to determine.

17. "Provide:" Means "furnish and install, complete and ready for the intended use."

18. "Regulation:" Includes laws, ordinances, statutes and lawful orders issued by authorities having jurisdiction, as well as and rules, conventions and agreements within the construction industry that control performance of the Work.

19. "Required:" Necessary for performance of the Work in conformance with the requirements of the Contract Documents, excluding matters regarding the means, methods, techniques, sequences and procedures of construction, such as:
    a. Regulatory requirements of authorities having jurisdiction.
    b. Requirements of referenced standards.
    c. Requirements generally recognized as accepted construction practices of the locale.
    d. Notes, schedules and graphic representations on the Drawings.
    e. Requirements specified or referenced in the Specifications.
    f. Duties and responsibilities stated in the Bidding and Contract Requirements.

20. "Scheduled:" Same as "Indicated."

21. "Selected:" As selected by SCF’s Representative, Architect or other responsible design professional from the full selection of the manufacturer's products, unless specifically limited in the Contract Documents to a particular quality, color, texture or price range.

22. "Shown:" Same as "Indicated."

23. "Site:" Same as "Site of the Work" or "Project Site;" the area or areas or spaces occupied by the Project and including adjacent areas and other related areas occupied or used by the Contractor for construction activities, either exclusively or with others performing other construction on the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land upon which the Project is to be built.

24. "Supply:" See "Furnish."

25. "Testing Laboratory" or "Testing Laboratories:" An independent entity engaged to perform specific inspections or tests, at the Project Site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests. Refer to Section 014000 – Quality Requirements.

26. "Testing and Inspection Agency:" Same as "Testing Laboratory."

1.07 ABBREVIATIONS, ACRONYMS, NAMES AND TERMS, GENERAL

A. Abbreviations, Acronyms, Names and Terms: Where acronyms, abbreviations, names, and terms are used in the Drawings, Specifications, or other Contract Documents, they shall mean the recognized name of the trade association, standards generating organization, authority having jurisdiction or other entity applicable.

B. Abbreviations, General: The following are commonly used abbreviations which may be found on the Drawings or in the Specifications. Refer to the Drawings for additional abbreviations or acronyms. This is a partial list. If there is any discrepancy or confusion, notify the University in writing by RFI:

AC or ac	Alternating current (or air conditioning, depending on context)
AMP or amp	Ampere
C	Celcius
CFM or cfm	Cubic feet per minute
CM or cm	Centimeter
CY or cy	Cubic Yard
DC or dc	Direct Current
DEG or deg	Degrees
F	Fahrenheit
FPM or fpm	Feet per minute
FPS or fps	Feet per second
FT or ft	Foot or feet
Gal or gal	Gallons
GPM or gmp	Gallons per minute

IN or in	Inches
Kip or kip	Thousand Pounds
KSI or ksi	Thousand pounds per square inch
KSF or ksf	Thousand pounds per square foot
KV or kv	Kilovolt
KVA or kva	Kilovolt amperes
KWH or kwh	Kilowatt hour
LBF or lbf	Pounds force
LF or lf	Lineal foot
M or m	Meter
MPH or mph	Miles per hour
MM or mm	Millimeter
PCF or pcf	Pounds per cubic foot
PSF or psf	Pounds per square foot
PSI or psi	Pounds per square inch
PSY or psy	Pounds per square yard
SF or sf	Square foot
Sy or sy	Square yard
V or v	Volts

C. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

D. Undefined Abbreviations, Acronyms, Names and Terms: Words and terms not otherwise specifically defined in this Section, in the Instructions to Bidders, in the Contract General Conditions, on the Drawings or elsewhere in the Specifications, shall be as customarily defined by trade or industry practice, by reference standard and by specialty dictionaries such as the following:

1. Dictionary of Architecture and Construction, Fourth Edition (Cyril M. Harris, McGraw-Hill Book Company, 2005).

2. Encyclopedia of Associations, published by Gale Research Co., commonly available in public libraries.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 01 Specifications apply to this section.

B. Document 00 52 13 – Agreement Form.

1.02 SUBMITTALS

A. Submit schedule of proposed connection and termination dates 15 days before implementation.

B. Submit site plan showing temporary facilities, utility connections, and construction personnel parking areas.

1.03 QUALITY ASSURANCE

A. Arrange and pay for Authorities Having Jurisdiction to approve each temporary utility before use. Obtain necessary certifications and permits.

1.04 PROJECT CONDITIONS

A. Assume responsibility for operation, maintenance, and protection.

PART 2 - PRODUCTS

2.01 FIRE EXTINGUISHERS

A. Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

2.02 TEMPORARY ELECTRICITY

A. If required, Contractor shall provide and shall pay for power service required from utility source.

B. Provide power outlets for construction operations, with branch wiring and distribution boxes. Provide flexible power cords as required.

C. Provide main service disconnect and overcurrent protection at

convenient location.

2.03 TEMPORARY LIGHTING

A. Provide and maintain lighting for constructions operations.

B. Permanent building lighting may be utilized during construction only with written pre-approval from Owner.

2.04 TEMPORARY HEAT

A. Provide and pay for heat devices and heat as required to maintain specified conditions for construction operations. Use equipment that will not have harmful effect on completed installation.

1. Use permanent heating system, or provide vented, self-contained, liquid-gas, propane-gas, or fuel-oil heaters with individual space thermostatic control.
2. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
3. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

4. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated, and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

B. Maintain minimum ambient temperature of 50 degrees F. in areas where construction is in progress, unless indicated otherwise in Specifications.

2.05 HUMIDITY CONTROL

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

2.06 TELEPHONE SERVICE

A. Provide, maintain, and pay for mobile telephone service to field supervisor(s) at time of project mobilization through project completion.

2.07 COMPUTER AND COPY SERVICE

A. Provide, maintain, and pay for computer service to field office at time of project mobilization.

B. Provide, maintain, and pay for 8-1/2 x 11-inch copy machine in field office.

2.08 TEMPORARY WATER SERVICE

A. Existing water service may be used. Owner will pay cost of water used. Exercise measures to conserve water.

B. If Owner provided water is not available or adequate, provide, maintain, and pay for suitable quality water required for construction.

1. Extend branch piping with outlets located so water is available by hoses with threaded connections.

2. Sterilize temporary water piping prior to use.

2.09 TEMPORARY SANITARY FACILITIES

A. Provide and maintain self-contained facilities and enclosures including toilets, wash facilities and drinking water, for use of construction persons.

2.10 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect adjacent properties from damage from construction operations. Coordinate all requirements for infection control with the Owner.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

2.11 FIELD OFFICES AND SHEDS

A. Office: Suitable for Contractor field management and tool storage, weather-tight, with lighting, electrical outlets, heating equipment and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for project meetings, with table and chairs necessary to accommodate all attendees.

C. Locate offices and sheds a minimum distance of 20 feet from existing structures unless Owner approves in writing.

D. Provide fire resistant rated walls where closer than 30 feet to other

permanent buildings or interior property lines. Not required at public right of way.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

3.02 WEATHER CONTROL

A. Provide temporary insulated weather-tight closure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual Specifications Sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

3.03 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual Specifications Sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to minimize damage.

C. Provide protection covering at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

3.04 SECURITY

A. Provide security and facilities to protect Work from unauthorized entry, vandalism, or theft.

B. Coordinate with Owner’s security program.

3.05 PARKING

A. Coordinate with Owner to arrange for parking areas to accommodate construction personnel.

B. When site space is not adequate, provide additional off-site parking.

C. Designate one parking space onsite for the Owner.

3.06 PROGRESS CLEANING

A. Maintain work and storage area free of waste materials, debris, and rubbish. Maintain site in a clean and orderly conditions to maintain site passage and exits, and to avoid fire hazard.

B. Provide waste-collection containers in sizes adequate to handle construction waste.

C. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the spaces.

D. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.

E. Remove waste materials, debris, and rubbish from site periodically at least once weekly and dispose off-site.

F. Open free-fall chutes not permitted. Terminate closed chutes into appropriate containers with lids.

3.07 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion Inspection.

B. Remove underground installations to a minimum depth of two feet. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

B. Section 00 52 13 – Agreement Form

C. Section 01 40 00 - Quality Requirements

D. Section 01 77 00 - Closeout Procedures

1.02 DEFINITIONS

A. Products: New material, machinery, components, equipment, fixtures, and systems forming the Work. Products do not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.

B. Products may also include existing materials or components required for reuse where specified.
   1. Provide interchangeable components of the same manufacturer, for similar use products.

C. Substitutions: Changes in products from those required by the Contract documents, proposed by the Contractor.
   1. Substitutions will not be accepted during Bidding.

1.04 PRODUCT SUBMITTALS

A. Product List: Submit a list, showing proposed products.
Include manufacturer's name and proprietary product names for each product.
   1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
   2. Form: Tabulate information for each product under the following column heading:
      a. Specification Section number and title.
      b. Generic name used in the Contract Documents.
      c. Proprietary name, model number, and similar designations.
      d. Manufacturer's name and address.
      e. Supplier's name and address.

f. Installer's name and address.
g. Projected delivery date or time span of delivery period.
h. Identification of items that require early submittal approval for scheduled delivery date.

3. Initial Submittal: Within 30 days after notice to proceed, submit initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
   a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
4. Completed List: Within 60 calendar days after notice to proceed to construction, submit product list. Include a written explanation for any omissions of data and for variations from Contract requirements.
5. Architect's Action: Architect will respond in writing to Contractor within 7 calendar days, excluding SCF recognized holidays, of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.

B. Substitution Requests: Submit one request for each proposed substitution. Include Specification Section number and title and Drawing numbers and titles.
   1. Documentation: Show compliance with requirements for substitutions.
   2. Show history of product in Alaska.

C. Comparable Product Requests: Submit for each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

D. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt.

1.05 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:
   1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
   2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
   3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
   4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

C. Storage:
   1. Store products to allow for inspection and measurement of quantity or counting of units.
   2. Store materials in a manner that will not endanger Project structure.
   3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
   4. Store cementitious products and materials on elevated platforms.
   5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
   6. Protect stored products from damage and freezing.

1.07 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract.

PART 2 – PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
3. Where products are accompanied by the term “as selected,” Architect will make selection.
4. Where products are accompanied by the term “match,” sample to be matched is Architect’s or existing construction.
5. Descriptive, performance, and reference standard requirements in the Specifications establish “salient characteristics” of products.
6. Or Equal: Where products are specified by name and accompanied by the term “or equal” or “or approved,” comply with product specification.

B. Product Selection Procedures:
1. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements.
2. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or with an unnamed manufacturer, that complies with requirements.
3. Visual Selection Specification: Where Specifications include the phrase “as selected from manufacturer’s colors, patterns, textures” or a similar phrase, select a product that complies with specified requirements.
    a. Standard Range: Where Specifications include the phrase “standard range of colors, patterns, textures” or similar phrase, Architect will select color pattern, density, or texture from manufacturer’s product line that does not include premium items.
    b. Full Range: Where Specifications include the phrase “full range of colors, patterns, textures” or similar phrase, Architect will select color, pattern, density, or texture from manufacturer’s product line that includes both standard and premium items.

2.02 PRODUCT SUBSTITUTIONS

A. See Specification Section 01 25 00 – Substitution Procedures.

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.
B. Cutting and patching.
C. Surveying for laying out the work.
D. Cleaning and protection.
E. Starting of systems and equipment.
F. Demonstration and instruction of Owner personnel.
G. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
H. General requirements for maintenance service.
I. Project record documents.
J. Operation and maintenance data.
K. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Drawings and General Provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
B. Section 00 52 13 – Agreement Form
C. Section 011000 – Summary of Work: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
D. Section 01 20 00 – Price and Payment Procedures.
E. Section 013000 - Administrative Requirements: Submittals procedures.
F. Section 014000 - Quality Requirements: Testing and inspection procedures.
G. Section 015000 - Temporary Facilities and Controls: Temporary exterior enclosures.
H. Section 015000 - Temporary Facilities and Controls: Temporary interior partitions.
I. Section 017419 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

J. Section 017610 - Temporary Protective Coverings: Materials for protection of installed work.

K. Section 017900 - Demonstration and Training: Demonstration of products and systems to be commissioned where indicated in specific specification sections.

L. Section 018100 – Commissioning.

M. Section 078400 - Firestopping.

N. Individual Product Sections: Specific requirements for operation and maintenance data.

O. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Effect on work of Owner or separate Contractor.
      f. Written permission of affected separate Contractor.
      g. Date and time work will be executed.

D. Project Record Documents: Submit electronic documents to Architect with claim for final Application for Payment.

E. Operation and Maintenance Data:
   1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed electronic documents within 10 calendar days, excluding SCF recognized holidays, after acceptance.

2. Submit one electronic copy of completed documents 15 calendar days, excluding SCF recognized holidays, prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
3. Submit 1 hard copy and 1 electronic set of revised final documents in final form within 10 calendar days, excluding SCF recognized holidays, after final inspection.

F. Warranties and Bonds:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit electronic documents within 10 calendar days, excluding SCF recognized holidays, after acceptance.
2. Make other submittals within 10 calendar days, excluding SCF recognized holidays, after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 calendar days, excluding SCF recognized holidays, after acceptance, listing the date of acceptance as the beginning of the warranty period.
4. Submit 1 final hard copy and 1 electronic copy of all warranties and bonds for entire project, prior to final Application for Payment.

1.04 QUALIFICATIONS

A. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect and Owner. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities.

1.05 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

B. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

D. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.06 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.07 CLOSEOUT PROCEDURES

A. Comply with procedures stated in General Conditions of the Contract for issuance of Certificate of Substantial Completion and including the following:
   1. Certificate of Substantial Completion: AIA Form G704-2017 or similar shall be used.
   2. Contractors Affidavit of Payment of Debts and Claims: AIA Form G706-1994 or similar shall be used.
   3. Contractors Affidavit or Release of Liens: AIA Form G706A-1994 or similar shall be used.
   4. Consent of Surety Company to Final Payment: AIA Form G707-1994 shall be used, sample follows.

B. OWNER may occupy portions of the project for its use, under provisions to be stated in Certificate of Substantial Completion.

C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.08 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
   1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
   2. Advise Owner of pending insurance changeover requirements.
   3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, boiler operating certificates, and similar releases.
   5. Prepare and submit Project Record Documents, operation and maintenance manuals, property surveys, and similar final record information.
   6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
   7. Make final changeover of permanent locks to Owner. Advise Owner's personnel of changeover.
   8. Complete startup testing of systems.
   9. Submit test/adjust/balance records.
   10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
   11. Advise Owner of changeover in heat and other utilities.
   12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

B. Inspection: Submit a written request for inspection for Substantial Completion to Architect or Owner's Representative. On receipt of request, Architect or Owner's Representative will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect or Owner's Representative will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect and/or Owner's Representative, that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

2. Results of completed inspection will form the basis of requirements for Final Completion.

1.09 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
   1. Submit a final Application for Payment according to Section 01 20 00 – Price and Payment Procedures.
   2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or otherwise resolved for acceptance.
   3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or notify Contractor of construction that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.10 LIST OF INCOMPLETE ITEMS (PUNCH LISTS)

A. Preparation and Submit List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.11 WARRANTIES

A. Submittal Time: Submit electronic and 1 hard copy of warranties on request of Architect or Owner's Representative for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and

occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize hard copy of warranty documents into an orderly sequence based on the table of contents of the Project Manual.
   1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8 ½ by-11-inch paper.
   2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
   3. Identify each binder on the front and spine with the typed or printed title “Warranties,” Project name, and name of Contractor.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

E. In addition to the hard copy, also provide one PDF electronic copy of warranty manual. Electronic copy shall be tabbed using digital bookmarks.

1.12 REINSPECTION FEES

A. Should status of completion of Work require reinspection by Contracting Officer due to failure of Work to comply with Contractor’s claims on initial inspection, Owner will deduct the amount of costs for reinspection services from final payment to the Contractor.

1.13 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

1.14 PROJECT RECORD DOCUMENTS

A. Maintain on site, one set of the following Record Documents; record actual revisions to the Work differing from Contract Drawings. Documents shall be electronic and shall be accessible at all times to Architect, Owner, and Owner’s Representative:
   1. Contract Drawings

2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Manufacturer's instructions for assembly, installation, and adjusting.

B. Store Record Documents separate from documents used for construction.

C. Record information concurrent with construction progress.

D. Record Specifications: Clearly identify and record at each product section description of actual products installed, particularly concealed products, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and Modifications.

E. Contract Drawings and Shop Drawings: Clearly mark each item to record actual construction graphically to scale including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract Drawings.

F. Final Documentation after completion of work.
   1. Final drawing annotations shall be noted on a clean electronic copy of the drawings titled Contract As-Built Drawings.
   2. Record document annotations to electronic copies of Contract As-Built Specifications.
   3. Annotations shall be typewritten with minimum 10-point font lettering of quality equal to original documents.

G. Before final Application for Payment, submit contractor record annotations on Contract Documents to Architect with dated transmittal letter containing project title, list of documents and signature of Contractor certifying that all concealed changes have been recorded before final Application for Payment.

1.15 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance, and extra materials in quantities specified in individual Specification Sections.
B. Deliver to project site and place in location as directed, obtain receipt prior to final payment.

PART 2 – PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 016000 - Product Requirements.

2.02 CLEANING MATERIALS

A. Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
C. Examine and verify specific conditions described in individual specification sections.
D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.
B. Promptly notify Architect of any discrepancies discovered.
C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
F. Utilize recognized engineering survey practices.
G. Establish elevations, lines, and levels. Locate and lay out by instrumentation and similar appropriate means:
H. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
I. Grid or axis for structures.
J. Building foundation, column locations, and ground floor elevations.
K. Periodically verify layouts by same means.
L. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:

1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-complying work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

F. Restore work with new products in accordance with requirements of Contract Documents.

G. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 078400, to full thickness of the penetrated element.

I. Patching:

1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 SYSTEM STARTUP

A. Coordinate with requirements of Section 018100 - Commissioning.

B. Coordinate schedule for start-up of various equipment and systems.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify that wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 DEMONSTRATION AND INSTRUCTION

A. See Section 017900 - Demonstration and Training.

3.10 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.

C. Use cleaning materials that are nonhazardous.

D. 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.

E. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment or other surfaces and equipment.

F. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

G. Clean filters of operating equipment.

H. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems, etc.

I. Clean site: sweep paved areas, remove petrochemical spills, rake clean landscaped surfaces, remove all nails and screws using a magnetic sweeper.

J. Remove waste, surplus materials, trash/rubbish, and construction facilities, materials, and equipment from the site; dispose of in legal manner; do not burn or bury.

K. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer’s written instructions.

L. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

M. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing

natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

N. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.

O. Sweep concrete floors broom clean in unoccupied spaces.

P. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

Q. Touch up and otherwise repair and restore exposed finishes and surfaces damaged by this work. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

R. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.

S. Replace parts subjected to construction operating conditions.

T. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

U. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

V. Clean ducts, blowers, and coils if units were operated without filters during construction.

W. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

X. Leave Project clean and ready for occupancy.

3.12 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Provide electronic copies to Architect and Owner, unless otherwise specified.

C. Accompany Architect, Owner, or Owner’s Representative on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

D. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

E. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that

work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

H. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

I. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.13 PROJECT RECORD DOCUMENTS

A. Maintain on site one electronic set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Clearly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings: Clearly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish first floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract drawings.

3.14 OPERATION AND MAINTENANCE DATA

A. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

B. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

C. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.15 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Additional information as specified in individual product specification sections.

D. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.16 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer’s standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and any special operating instructions.

D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

E. Provide servicing and lubrication schedule, and list of lubricants required.

F. Include manufacturer’s printed operation and maintenance instructions.

G. Include sequence of operation by controls manufacturer.

H. Provide original manufacturer’s parts list, illustrations, assembly drawings, and diagrams required for maintenance.

I. Provide control diagrams by controls manufacturer as installed.

J. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

K. Additional Requirements: As specified in individual product specification sections.

3.17 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into a single set of durable manuals for Owner's personnel use (1 copy), with data arranged in the same sequence as, and identified by, the specification sections. An identical electronic copy, electronically bookmarked, shall also be submitted.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system (separate bookmark for each system in electronic copy).

C. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 2 inch (50 mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor, and subcontractors, with names of responsible parties.

F. Tables of Contents: List every item separated by a divider (or electronic bookmarks), using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

G. Dividers: Provide tabbed dividers for each separate product and system (and bookmarks in electronic copy); identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

H. Text: Manufacturer's printed data, or typewritten data on 20-pound paper.

I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

J. Arrangement of Contents: Organize each volume in parts as follows:

1. Project Directory.
2. Table of Contents, of all volumes, and of this volume.

Operation and Maintenance Data: Arranged by system, then by product category, Source data, Operation and maintenance data, Field quality control data, and Photocopies of warranties and bonds.

3.18 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 calendar days, excluding SCF recognized holidays, after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Include originals of each in operation and maintenance hard copy manuals, indexed separately on Table of Contents. Include electronic copies of each, electronically tabbed, in the electronic copy of operation and maintenance manual.

F. Include 1 separate hard copy manual and 1 electronic manual of all warranties and bonds (submitted separately from operation and maintenance manual).

3.19 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.01WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.

E. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

PART 2 - PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 013000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 015000 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 016000 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 017000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

END OF SECTION

SECTION 01 76 10
TEMPORARY PROTECTIVE COVERINGS

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Temporary protective coverings for installed floors, walls, and other surfaces.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

B. Section 005213 – Agreement Form.

C. Section 017000 - Execution and Closeout Requirements: Coordination of requirements for materials specified in this section.

1.03 REFERENCE STANDARDS

A. ANSI A135.4 - Basic Hardboard 2012 (Reaffirmed 2020).

PART 2 – PRODUCTS

2.01 GENERAL

A. Provide materials that are easily removed without damage to the surfaces covered and with the following characteristics:
   1. Impact resistant.
   2. Slip resistant.
   3. Flame retardant.

PART 3 – EXECUTION

3.01 PREPARATION

A. Remove dirt and debris from surfaces to be protected.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Trim or overlap sheet materials to fit area to be covered.

C. Roll out and cut rolled materials to fit area to be covered.
D. Tape seams. Avoid taping directly to finished surfaces.
E. Stretch self-adhering film materials to completely cover surface.
F. Install door jamb protection to full height of opening.

3.03 REMOVAL

A. Remove protective coverings prior to Date of Substantial Completion. Reuse or recycle materials if possible.

END OF SECTION

SECTION 01 79 00
DEMONSTRATION AND TRAINING

PART 1 – GENERAL

1.01SUMMARY

A. Demonstration of products and systems to be commissioned and where indicated in specific specification sections.

B. Training of Owner personnel in operation and maintenance is required for:
   1. All software-operated systems.
   2. HVAC systems and equipment.
   3. Plumbing equipment.
   4. Electrical systems and equipment.
   5. Items specified in individual product Sections.
   6. Conveying systems.

C. Training of Owner personnel in care, cleaning, maintenance, and repair is required for:
   1. Items specified in individual product Sections.

1.02 RELATED REQUIREMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

B. Section 017800 - Closeout Submittals: Operation and maintenance manuals.

C. Section 018100 - Commissioning: Additional requirements applicable to demonstration and training.

D. Other Specification Sections: Additional requirements for demonstration and training.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures; except:
   1. Make all submittals specified in this section, and indicated elsewhere for commissioning purposes, directly to the Commissioning Authority.
   2. Submit one copy to the Commissioning Authority, not to be returned.
   3. Make commissioning submittals on time schedule specified by Commissioning Authority.
   4. Submittals indicated as "Draft" are intended for the use of the Commissioning Authority in preparation of overall Training Plan; submit in editable electronic format, Microsoft Word 2003 preferred.

B. Draft Training Plans: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
   1. Submit to Commissioning Authority for review and inclusion in overall training plan.
   2. Submit not less than four weeks prior to start of training.
   3. Revise and resubmit until acceptable.
   4. Provide an overall schedule showing all training sessions.
   5. Include at least the following for each training session:
      a. Identification, date, time, and duration.
      b. Description of products and/or systems to be covered.
      c. Name of firm and person conducting training; include qualifications.
      d. Intended audience, such as job description.
      e. Objectives of training and suggested methods of ensuring adequate training.
      f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
      g. Media to be used, such as slides, hand-outs, etc.
      h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.

C. Training Manuals: Provide 1 hard copy training manual for each attendee; allow for minimum of two attendees per training session. Provide an electronic copy of training manuals 48 hours in advance of training.
   1. Include applicable portion of O&M manuals.
   2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
   3. Provide one extra copy of each training manual to be included with operation and maintenance data (hard copy/physical manual and electronic manual).

D. Training Reports:
   1. Identification of each training session, date, time, and duration.
   2. Sign-in sheet showing names and job titles of attendees.
   3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.
   4. Include Commissioning Authority's formal acceptance of training session.

E. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
   1. Format: MP4
   2. Label each video with session identification and date.

1.04 QUALITY ASSURANCE

A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
   1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
   2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 DEMONSTRATION - GENERAL

A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.

B. Demonstrations conducted during Functional Testing need not be repeated unless Owner personnel training is specified.

C. Demonstration may be combined with Owner personnel training if applicable.

D. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
   1. Perform demonstrations not less than two weeks prior to Substantial Completion.
   2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

E. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
   1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.02 TRAINING - GENERAL

A. Commissioning Authority will prepare the Training Plan based on draft plans submitted.

B. Conduct training on-site unless otherwise indicated.

C. Owner will provide classroom and seating at no cost to Contractor.

D. Do not start training until Functional Testing is complete, unless otherwise specified or approved by the Commissioning Authority.

E. Provide training in minimum two-hour segments.

F. The Commissioning Authority is responsible for determining that the training was satisfactorily completed and will provide approval forms.

G. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.

H. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
   1. The location of the O&M manuals and procedures for use and preservation; backup copies.
   2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
   3. Typical uses of the O&M manuals.

I. Product- and System-Specific Training:
   1. Review the applicable O&M manuals.
   2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
   3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
   4. Provide hands-on training on all operational modes possible and preventive maintenance.
   5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
   6. Discuss common troubleshooting problems and solutions.
   7. Discuss any peculiarities of equipment installation or operation.
   8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
   9. Review recommended tools and spare parts inventory suggestions of manufacturers.
   10. Review spare parts and tools required to be furnished by Contractor.
   11. Review spare parts suppliers and sources and procurement procedures.

J. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

SECTION 01 9113
GENERAL COMMISSIONING REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
1. General requirements for coordinating and scheduling commissioning.
2. Commissioning meetings.
3. Commissioning reports.
4. Use of test equipment, instrumentation, and tools for commissioning.
5. PreFunctional checklist, including, but not limited to, installation checks, startup, performance tests, and performance test demonstration.
6. Functional performance tests and Functional Performance Test demonstration.
7. Adjusting, verifying, and documenting identified systems and assemblies.
8. Integrated System functional performance test guidelines.

B. Related Requirements:
1. Section **01 3000 - Administrative Requirements** for Administrative requirements including submittal procedures requirements for commissioning.
2. Section **01 7000 - Execution and Closeout Requirements** for certificate of Construction Phase Commissioning Completion submittal requirements.
3. Section **01 9119.43 - Exterior Enclosure Commissioning** for technical commissioning requirements for the exterior enclosure.
4. Section **21 0800 - Commissioning of Fire Suppression** for technical commissioning requirements for fire suppression.
5. Section **22 0800 - Commissioning of Plumbing** for technical commissioning requirements for plumbing.
6. Section **23 0800 - Commissioning of HVAC** for technical commissioning requirements for HVAC.
7. Section **26 0800 - Commissioning of Electrical Systems** for technical commissioning requirements for electrical systems.

1.02 DEFINITIONS

A. Acceptance Criteria: Threshold of acceptable work quality or performance specified for a commissioning activity, including, but not limited to, prefunctional checklist, performance tests, performance test demonstrations, Functional performance tests and Functional performance test demonstrations.

B. Basis-of-Design Document: A document prepared by the Architect that records concepts, calculations, decisions, and product selections used to comply with Owner's Project Requirements and to suit applicable regulatory requirements, standards, and guidelines.

C. Commissioning Authority: An entity engaged by Owner, and identified in Section **011000 - Summary of Work**, to evaluate Commissioning-Process Work.

D. Commissioning Plan: A document, prepared by Commissioning Authority, that outlines the organization, schedule, allocation of resources, and documentation requirements of commissioning.

E. Commissioning: A quality-focused process for verifying and documenting that the facility and all of its systems and assemblies are planned, designed, installed, and tested to comply with Owner's Project Requirements. The requirements specified here are limited to the construction phase commissioning activities. The scope of commissioning is defined in Section **011000 - Summary of Work**.

F. Construction Phase Commissioning Completion: The stage of completion and acceptance of commissioning when resolution of deficient conditions and issues discovered during commissioning and retesting until acceptable results are obtained has been accomplished.

Owner will establish in writing the date Construction Phase Commissioning Completion is achieved. See Section **01 7000 - Execution and Closeout Procedures** for certificate of Construction Phase Commissioning Completion submittal requirements.

1. Commissioning is complete when the work specified in this Section and related Sections has been completed and accepted, including, but not limited to, the following:
   a. Completion of tests and acceptance of test results.
   b. Resolution of issues, as verified by retests performed and documented with acceptance of retest results.
   c. Comply with requirements in Section **01 7900 - Demonstration and Training**.
   d. Completion and acceptance of submittals and reports.

G. Owner's Project Requirements: A document written by Owner, Architect, or Commissioning Authority that details the functional requirements of a project and the expectations of how it will be used and operated, including Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.

H. Owner's Witness: Commissioning Authority, Owner's Project Manager, or Architect-designated witness authorized to authenticate test demonstration data and to sign completed test data forms.

I. "Systems," "Assemblies," "Subsystems," "Equipment," and "Components": Where these terms are used together or separately, they shall mean "as-built" systems, assemblies, subsystems, equipment, and components.

J. Test: Performance tests, performance test demonstrations, Functional performance tests, and Functional performance test demonstrations.

K. Sampling Procedures and Tables for Inspection by Attributes: As defined in ASQ Z1.4.

1.03 COMPENSATION

A. Should Architect, Commissioning Authority, other Owner's witness, or Owner's staff perform additional services or incur additional expenses due to actions of Contractor listed below, compensate Owner for such additional services and expenses.
   1. Failure to provide timely notice of commissioning activities schedule changes.
   2. Failure to meet acceptance criteria for test demonstrations.

B. Contractor shall compensate Owner for such additional services and expenses at the professional's billing rate per labor hour plus travel expenses plus per diem allowances for meals and lodging according to current U.S. General Services Administration (GSA) Per Diem Rates.

1.04 COMMISSIONING TEAM

A. Members Appointed by Contractor(s):
   1. Commissioning Coordinator: A person or entity employed by Contractor to manage, schedule, and coordinate commissioning.
   2. Project superintendent and other employees that Contractor may deem appropriate for a particular portion of the commissioning.
   3. Subcontractors, installers, suppliers, and specialists that Contractor may deem appropriate for a particular portion of the commissioning.
   4. Appointed team members shall have the authority to act on behalf of the entity they represent.

B. Members Appointed by Owner:
   1. Commissioning authority, plus consultants that Commissioning Authority may deem appropriate for a particular portion of the commissioning.
   2. Owner representative(s), facility operations and maintenance personnel, plus other employees, separate contractors, and consultants that Owner may deem appropriate for a particular portion of the commissioning.
   3. Architect, plus employees and consultants that Architect may deem appropriate for a particular portion of the commissioning.

1.05 SUBMITTALS

A. Comply with requirements in Section **01 3000 - Administrative Procedures** for submittal procedures general requirements for commissioning.

B. INFORMATIONAL SUBMITTALS
   1. Commissioning Plan Information:
      a. List of Contractor-appointed commissioning team members to include specific personnel and subcontractors to the performance of the various commissioning requirements.
      b. Schedule of commissioning activities, integrated with the construction schedule. Comply with requirements in **Section 01 3100 - Project Management and Coordination** for construction schedule general requirements for commissioning.
      c. Contractor personnel and subcontractors to participate in each test.
      d. List of instrumentation required for each test to include identification of parties that will provide instrumentation for each test.
   2. Commissioning schedule.
   3. Two-week look-ahead schedules.
   4. Commissioning Coordinator Letter of Authority
   5. Commissioning Coordinator Qualification Data:
   6. List test instrumentation, equipment, and monitoring devices. Include the following information:
      a. Make, model, serial number, and application for each instrument, equipment, and monitoring device.
      b. Brief description of intended use.
      c. Calibration record showing the following:
         1) Calibration agency, including name and contact information.
         2) Last date of calibration.
         3) Range of values for which calibration is valid.
         4) Certification of accuracy.
         5) N.I.S.T. traceability certification for calibration equipment.
         6) Due date of the next calibration.
   7. Test Reports:
      a. Pre-Startup Report: Prior to start up of equipment or a system, submit signed, completed prefunctional checklist.
      b. Test Data Reports: At the end of each day in which tests are conducted, submit test data for tests performed.
      c. Commissioning Issues Reports: Daily, at the end of each day in which tests are conducted, submit commissioning issue reports for tests for which acceptable results were not achieved.
      d. Weekly Progress Report: Weekly, at the end of each week in which tests are conducted, submit a progress report.
      e. Data Trend Logs: Submit data trend logs at the end of the trend log period.
      f. System Alarm Logs: Daily, at the start of days following a day in which tests were performed, submit print-out of log of alarms that occurred since the last log was printed.
   8. Prefunctional Checklist:
      a. Material checks.
      b. Installation checks.
      c. Startup procedures, where required.

C. CLOSEOUT SUBMITTALS
   1. Commissioning Report:
      a. At Construction Phase Commissioning Completion, include the following:
         1) Pre-startup reports.

2) Approved test procedures.
3) Test data forms, completed and signed.
4) Progress reports.
5) Commissioning issues report log.
6) Commissioning issues reports showing resolution of issues.
7) Correspondence or other documents related to resolution of issues.
8) Other reports required by commissioning.
9) List unresolved issues and reasons they remain unresolved and should be exempted from the requirements for Construction Phase Commissioning Completion.
10) Report shall include commissioning work of Contractor.

2. Request for Certificate of Construction Phase Commissioning Completion.
3. Operation and Maintenance Data. For proprietary test equipment, instrumentation, and tools to include in operation and maintenance manuals.

1.06 QUALITY ASSURANCE

A. Commissioning Coordinator Qualifications:
1. Documented experience commissioning systems of similar complexity to those contained in these documents on at least [**three**] <**Insert number**> projects of similar scope and complexity.
2. Certification of commissioning process expertise. The following certifications are acceptable. Owner reserves the right to accept or reject certifications as evidence of qualification.
a. Certified Commissioning Professional, by Building Commissioning Association.
b. Commissioning Process Management Professional, by American Society of Heating, Refrigerating and Air-Conditioning Engineers.
c. Accredited Commissioning Process Authority Professional, by University of Wisconsin.
d. Accredited Commissioning Process Manager, by University of Wisconsin.
e. Accredited Green Commissioning Process Provider, by University of Wisconsin.

B. Calibration Agency Qualifications: Certified by The American Association of Laboratory Accreditation that the calibration agency complies with minimum requirements of ISO/IEC 17025.

1.07 COMMISSIONING AUTHORITY'S RESPONSIBILITIES

A. Commissioning Authority Responsibilities: Comply with requirements in Section **011000 - Summary of Work**.

PART 2 PRODUCTS

2.01 TEST EQUIPMENT, INSTRUMENTATION, AND TOOLS

A. Test equipment and instrumentation required to perform the commissioning shall remain the property of Contractor unless otherwise indicated.

B. Test equipment and instrumentation required to perform commissioning shall comply with the following criteria:
1. Be manufactured for the purpose of testing and measuring tests for which they are being used and have an accuracy to test and measure system performance within the tolerances required to determine acceptable performance.
2. Calibrated and certified.
a. Calibration performed and documented by a qualified calibration agency according to national standards applicable to the tools and instrumentation being calibrated. Calibration shall be current according to national standards or within test equipment and instrumentation manufacturer's recommended intervals, whichever is more frequent, but not less than within six months of initial use on Project. Calibration tags permanently affixed.

b. Repair and recalibrate test equipment and instrumentation if dismantled, dropped, or damaged since last calibrated.

3. Maintain test equipment and instrumentation.
4. Use test equipment and instrumentation only for testing or monitoring Work for which they are designed.

2.02 PROPRIETARY TEST EQUIPMENT, INSTRUMENTATION, AND TOOLS

A. Proprietary test equipment, instrumentation, and tools are those manufactured or prescribed by tested equipment manufacturer and required for work on its equipment as a condition of equipment warranty, or as otherwise required to service, repair, adjust, calibrate or perform work on its equipment.
   1. Identify proprietary test equipment, instrumentation, and tools required in the test equipment identification list submittal.
   2. Proprietary test equipment, instrumentation, and tools shall become the property of Owner at Substantial Completion.

2.03 REPORT FORMAT AND ORGANIZATION

A. General Format and Organization:
   1. Electronic Data: Portable document format (PDF); a single file with outline-organized bookmarks for major and minor tabs and tab contents itemized for specific reports.

B. The Commissioning Authority shall compile and prepare a Commissioning Report containing:
   1. Include a table of contents and an index to each test.
   2. Include major tabs for each Specification Section.
   3. Include minor tabs for each test.
   4. Within each minor tab, include the following:
      a. Test specification.
      b. Pre-startup reports.
      c. Approved test procedures.
      d. Test data forms, completed and signed.
      e. Commissioning issue reports, showing resolution of issues, and documentation related to resolution of issues pertaining to a single test. Group data forms, commissioning issue reports showing resolution of issues, and documentation related to resolution of issues for each test repetition together within the minor tab, in reverse chronological order (most recent on top).

PART 3 EXECUTION

3.01 PREPARATION

A. Review preliminary Prefunctional Checklist and preliminary test procedures and data forms.

3.02 PREFUNCTIONAL CHECKLIST

A. Prefunctional checklist cannot modify or conflict with the Contract Documents.

B. The Commissioning Agent will create prefunctional checklist based on actual systems and equipment to be included in Project.

C. Material Checks: Compare specified characteristics and approved submittals with materials as received. Include factory tests and other evaluations, adjustments, and tests performed prior to shipment, if applicable.
   1. Services connection requirements, including configuration, size, location, and other pertinent characteristics.
   2. Included optional features.
   3. Delivery Receipt Check: Inspect and record physical condition of materials and equipment on delivery to Project site, including agreement with approved submittals, cleanliness and lack of damage.

D. Installation Checks:
   1. Location according to Drawings and approved Shop Drawings.

2. Configuration.
3. Compliance with manufacturers' written installation instructions.
4. Attachment to structure.
5. Access clearance to allow for maintenance, service, repair, removal, and replacement without the need to disassemble or remove other equipment or building elements. Access coordinated with other building elements and equipment, including, but not limited to, ceiling and wall access panels, in a manner consistent with OSHA fall-protection regulations and safe work practices.
6. Utility connections are of the correct characteristics, as applicable.
7. Correct labeling and identification.

E. Startup Checks: Verify readiness of equipment to be energized. Include manufacturer's standard startup procedures and forms.

F. Startup: Perform and document initial operation of equipment to prove that it is installed properly and operates as intended according to manufacturer's standard startup procedures, minimum.

G. Performance Tests:
1. Static Tests: As specified elsewhere, including, but not limited to, duct and pipe leakage tests, insulation-resistance tests, and water-penetration tests.
2. Component Performance Tests: Tests evaluate the performance of an input or output of components under a full range of operating conditions.
3. Equipment and Assembly Performance Tests: Test and evaluate performance of equipment and assemblies under a full range of operating conditions and loads.
4. System Performance Tests: Test and evaluate performance of systems under a full range of operating conditions and loads.
5. Intersystem Performance Tests: Test and evaluate the interface of different systems under a full range of operating conditions and loads.

H. Deferred PreFunctional Checklist: Obtain Owner approval of proposed deferral of prefunctional checklist, including proposed schedule of completion of each deferred prefunctional checklist, before submitting request for Certificate of Construction Phase Commissioning Completion. When approved, deferred prefunctional checklist may be completed after date of Construction Phase Commissioning Completion. Include the following in request for Certificate of Construction Phase Commissioning Completion:
1. Identify deferred prefunctional checklist by number and title.
2. Provide a target schedule for completion of deferred prefunctional checklist.
3. Written approval of proposed deferred prefunctional checklist, including approved schedule of completion of each deferred construction checklist.

I. Delayed PreFunctional checklist: Obtain Owner approval of proposed delayed PreFunctional checklist, including proposed schedule of completion of each delayed construction checklist, before submitting request for Certificate of Construction Phase Commissioning Completion. When approved, delayed prefunctional checklist may be completed after date of Construction Phase Commissioning Completion. Include the following in request for Certificate of Construction Phase Commissioning Completion:
1. Identify delayed prefunctional checklist by number and title.
2. Provide a target schedule for completion of delayed prefunctional checklist.
3. Written approval of proposed delayed prefunctional checklist, including approved schedule of completion of each delayed construction checklist.

3.03 GENERAL EXECUTION REQUIREMENTS

A. Schedule and coordinate commissioning with the construction schedule.

B. Perform activities identified in prefunctional checklist, including tests, and document results of actions as construction proceeds.

C. Perform test demonstrations for Owner's witness. Unless otherwise indicated, demonstrate tests for 100 percent of work to which the test applies. In some instances, demonstration of a random sample of other than 100 percent of the results of a test is specified.
   1. Where sampling is specified, the sampling plan and procedure for the test demonstration shall be determined using ASQ Z1.4.
      a. General Inspection: [Level I] [Level II] [Level III] <Insert level>.
      b. Special Inspection: [**Level S-1**] [**Level S-2**] [**Level S-3**] [**Level S-4**] <**Insert level**>.
      c. Acceptance Quality Limit (AQL) of [**1.5**] <**Insert AQL**>.
   2. The "lot size" in ASQ Z1.4 is the sum of the number of items to which the test demonstration applies, as described in the scope subparagraph of each test.
   3. On determination of the sample size, the samples shall be selected randomly by Owner's witness at the time of the test demonstration.
   4. Include in the Commissioning Plan a detailed list of the test demonstrations with lot and sample quantities for each test.

D. Report test data and commissioning issue resolutions.

E. Schedule personnel to participate in and perform Commissioning-Process Work.

F. Installing contractors' commissioning responsibilities include, but are not limited to, the following:
   1. Operating the equipment and systems they install during tests.
   2. In addition, installing contractors may be required to assist in tests of equipment and systems with which their work interfaces.

3.04 CONTRACTOR'S RESPONSIBILITIES

A. Management and Coordination: Manage, schedule, and coordinate commissioning, including, but not limited to, the following:
   1. Coordinate with subcontractors on their commissioning responsibilities and activities.
   2. Obtain, assemble, and submit commissioning documentation.
   3. Attend periodic on-site commissioning meetings. Comply with requirements in Section **01 3100 - Project Management and Coordination**.
   4. Develop and maintain the commissioning schedule. Integrate commissioning schedule into the construction schedule. Update schedule at specified intervals.
   5. Review and comment on preliminary test procedures and data forms.
   6. Report inconsistencies and issues in system operations.
   7. Verify that tests have been completed and results comply with acceptance criteria, and that equipment and systems are ready before scheduling test demonstrations.
   8. Direct and coordinate test demonstrations.
   9. Coordinate witnessing of test demonstrations by Owner's witness.
   10. Coordinate and manage training. Be present during training sessions to direct video recording, present training and direct the training presentations of others. Comply with requirements in Section **01 7900 - Demonstration and Training**.
   11. Provide the documentation to the Commissioning Authority for the preparation and submission of specified commissioning reports.
   12. Track commissioning issues until resolution and retesting is successfully completed.
   13. Retain original records of Commissioning-Process Work, organized as required for the commissioning report. Provide access by Owner to these records on request.
   14. Provide documentation to the Commissioning Authority for the assembly and submission of the commissioning report.

3.05 FUNCTIONAL PERFORMANCE TESTING

A. Quality Control: PreFunctional checklist, including tests, are quality-control tools designed to improve the functional quality of Project. Test demonstrations evaluate the effectiveness of Contractor's quality-control process.

B. Owner's witness will be present to witness commissioning work requiring the signature of an owner's witness, including, but not limited to, test demonstrations. Owner's project manager will coordinate attendance by Owner's witness with Contractor's published commissioning schedule. Owner's witness will provide no labor or materials in the commissioning work. The only function of Owner's witness will be to observe and comment on the progress and results of commissioning.

C. PreFunctional Checklist:
   1. Complete prefunctional checklist as Work is completed.
   2. Distribute prefunctional checklist to installing contractors before they start work.
   3. Installers:
      a. Verify installation using approved prefunctional checklist as Work proceeds.
      b. Complete and sign prefunctional checklist [**daily**] [**weekly**] <**Insert frequency**> for work performed during the preceding [**day**] [**week**] <**Insert time period**>.
   4. Provide Commissioning Authority access to prefunctional checklist.

D. Installation Compliance Issues: Record as an installation compliance issue Work found to be incomplete, inaccessible, at variance with the Contract Documents, nonfunctional, or that does not comply with prefunctional checklist. Record installation compliance issues on the construction checklist at the time they are identified. Record corrective action and how future Work should be modified before signing off the construction checklist.

E. Pre-Startup Audit: Prior to executing startup procedures, review completed installation checks to determine readiness for startup and operation. Report conditions, which, if left uncorrected, adversely impact the ability of systems or equipment to operate satisfactorily or to comply with acceptance criteria. Prepare pre-startup report for each system.

F. Test Procedures and Test Data Forms:
   1. Test procedures shall define the step-by-step procedures to be used to execute tests and test demonstrations.
   2. Test procedures shall be specific to the make, model, and application of the equipment and systems being tested.
   3. Completed test data forms are the official records of the results of tests.
   4. Commissioning Authority will provide to Contractor preliminary test procedures and test data forms for performance tests and Functional performance tests after approval of Product Data, Shop Drawings, and preliminary operation and maintenance manual.
   5. Review preliminary test procedures and test data forms and provide comments within 14 days of receipt from Commissioning Authority. Review shall address the following:
      a. Equipment protection and warranty issues, including, but not limited to, manufacturers' installation and startup recommendations, and operation and maintenance instructions.
      b. Applicability of the procedure to the specific software, equipment, and systems approved for installation.
   6. After Contractor has reviewed and commented on the preliminary test procedures and test data forms, Commissioning Authority will revise and reissue the approved revised test procedures and test data forms marked "Approved for Testing."
   7. Use only approved test procedures and test data forms marked "Approved for Testing" to perform and document tests and test demonstrations.

G. Performance of Tests:
   1. The sampling rate for tests is 100 percent. The sampling rate for test demonstrations is 100 percent unless otherwise indicated.
   2. Perform and complete each step of the approved test procedures in the order listed.
   3. Record data observed during performance of tests on approved data forms at the time of test performance and when the results are observed.
   4. Record test results that are not within the range of acceptable results on commissioning issue report forms in addition to recording the results on approved test procedures and data forms according to the "Commissioning Compliance Issues" Paragraph in this Article.

5. On completion of a test, sign the completed test procedure and data form. Tests for which test procedures and data forms are incomplete, not signed, or which indicate performance that does not comply with acceptance criteria will be rejected. Tests for which test procedures and data forms are rejected shall be repeated and results resubmitted.

H. Performance of Test Demonstration:
1. Perform test demonstrations on a sample of tests after test data submittals are approved. The sampling rate for test demonstrations shall be 100 percent unless otherwise indicated in the individual test specification.
2. Notify Owner's witness at least [**three days**] <**Insert alternative time**> in advance of each test demonstration.
3. Perform and complete each step of the approved test procedures in the order listed.
4. Record data observed during performance of test demonstrations on approved data forms at the time of demonstration and when the results are observed.
5. Provide full access to Owner's witness to directly observe the performance of all aspects of system response during the test demonstration. On completion of a test demonstration, sign the completed data form and obtain signature of Owner's witness at the time of the test to authenticate the reported results.
6. Test demonstration data forms not signed by Contractor and Owner's witness at the time of the completion of the procedure will be rejected. Test demonstrations for which data forms are rejected shall be repeated and results shall be resubmitted.
    a. Exception for Failure of Owner's Witness to Attend: Failure of Owner's witness to be present for agreed-on schedule of test demonstration shall not delay Contractor. If Owner's witness fails to attend a scheduled test, Contractor shall proceed with the scheduled test. On completion, Contractor shall sign the data form for Contractor and for Owner's witness, and shall note the absence of Owner's witness at the scheduled time and place.

7. False load test requirements are specified in related sections.
    a. Where false load testing is specified, provide temporary equipment, power, controls, wiring, piping, valves, and other necessary equipment and connections required to apply the specified load to the system. False load system shall be capable of steady-state operation and modulation at the level of load specified. Equipment and systems permanently installed in this work shall not be used to create the false load without Architect's written approval.

I. Deferred Tests:
1. Deferred Tests List: Identify, in the request for Certificate of Construction Phase Commissioning Completion, proposed deferred tests or other tests approved for deferral until specified seasonal or other conditions are available. When approved, deferred tests may be completed after the date of Construction Phase Commissioning Completion. Identify proposed deferred tests in the request for Certificate of Construction Phase Commissioning Completion as follows:
    a. Identify deferred tests by number and title.
    b. Provide a target schedule for completion of deferred tests.
2. Schedule and coordinate deferred tests. Schedule deferred tests when specified conditions are available. Notify Architect and Commissioning Authority at least [**three working days**] <**Insert alternative time**> (minimum) in advance of tests.
3. Where deferred tests are specified, coordinate participation of necessary personnel and of Architect, Commissioning Authority, and Owner's witness. Schedule deferred tests to minimize occupant and facility impact. Obtain Architect's approval of the proposed schedule.

J. Delayed Tests:
1. Delayed Tests List: Identify, in the request for Certificate of Construction Phase Commissioning Completion, proposed delayed tests. Obtain Owner approval of proposed delayed tests, including proposed schedule of completion of each delayed test, before

submitting request for Certificate of Construction Phase Commissioning Completion. Include the following in the request for Certificate of Construction Phase Commissioning Completion:

a. Identify delayed tests by test number and title.
b. Written approval of proposed delayed tests, including approved schedule of completion of delayed tests.

2. Schedule and coordinate delayed tests. Schedule delayed tests when conditions that caused the delay have been rectified. Notify Architect and Commissioning Authority at least [**three working days**] <**Insert alternative time**> (minimum) in advance of tests.
3. Where delayed tests are approved, coordinate participation of necessary personnel and of Architect, Commissioning Authority, and Owner's witness. Schedule delayed tests to minimize occupant and facility impact. Obtain Architect's approval of the proposed schedule.

K. Commissioning Compliance Issues:

1. Test results that are not within the range of acceptable results are commissioning compliance issues.
2. Track and report commissioning compliance issues until resolution and retesting are successfully completed.
3. If a test demonstration fails, determine the cause of failure. Direct timely resolution of issue and then repeat the demonstration. If a test demonstration must be repeated due to failure caused by Contractor work or materials, reimburse Owner for billed costs for the participation in the repeated demonstration.
4. Test Results: If a test demonstration fails to meet the acceptance criteria, perform the following:
   a. Complete a commissioning compliance issue report form promptly on discovery of test results that do not comply with acceptance criteria.
   b. Submit commissioning compliance issue report form within [**24 hours**] <**Insert alternative time**> of the test.
   c. Determine the cause of the failure.
   d. Establish responsibility for corrective action if the failure is due to conditions found to be Contractor's responsibility.
5. Commissioning Compliance Issue Report: Provide a commissioning compliance issue report for each issue. Do not report multiple issues on the same commissioning compliance issue report.
   a. Exception: If an entire class of devices is determined to exhibit the identical issue, they may be reported on a single commissioning compliance issue report. (For example, if all return-air damper actuators that are specified to fail to the open position are found to fail to the closed position, they may be reported on a single commissioning issue report. If a single commissioning issue report is used for multiple commissioning compliance issues, each device shall be identified in the report, and the total number of devices at issue shall be identified.
   b. Complete and submit Part 1 of the commissioning compliance issue report immediately when the condition is observed.
   c. Record the commissioning compliance issue report number and describe the deficient condition on the data form.
   d. Resolve commissioning compliance issues promptly. Complete and submit Part 2 of the commissioning compliance issue report when issues are resolved.
6. Diagnose and correct failed test demonstrations as follows:
   a. Perform diagnostic tests and activities required to determine the fundamental cause of issues observed.
   b. Record each step of the diagnostic procedure prior to performing the procedure. Update written procedure as changes become necessary.
   c. Record the results of each step of the diagnostic procedure.

d. Record the conclusion of the diagnostic procedure on the fundamental cause of the issue.
e. Determine and record corrective measures.
f. Include diagnosis of fundamental cause of issues in commissioning compliance issue report.

7. Retest:
   a. Schedule and repeat the complete test procedure for each test demonstration for which acceptable results are not achieved. Obtain signature of Owner's witness on retest data forms. Repeat test demonstration until acceptable results are achieved. Except for issues that are determined to result from design errors or omissions, or other conditions beyond Contractor's responsibility, compensate Owner for direct costs incurred as the result of repeated test demonstrations to achieve acceptable results.
   b. For each repeated test demonstration, submit a new test data form, marked "Retest."
8. Do not correct commissioning compliance issues during test demonstrations.
   a. Exceptions will be allowed if the cause of the issue is obvious and resolution can be completed in less than [**five**] <**Insert number**> minutes. If corrections are made under this exception, note the deficient conditions on the test data form and issue a commissioning compliance issue report. A new test data form, marked "Retest," shall be initiated after the resolution has been completed.

3.06 COMMISSIONING MEETINGS

A. Commissioning Authority will schedule and conduct commissioning meetings. Comply with requirements in Section **01 3100 - Project Management and Coordination**.

3.07 SEQUENCING

A. Sequencing of Commissioning Verification Activities: For a particular material, item of equipment, assembly, or system, perform the following in the order listed unless otherwise indicated:
   1. PreFunctional Checklist:
      a. Material checks.
      b. Installation checks.
      c. Start up, as appropriate. Some startup may depend on component performance. Such startup may follow component performance tests on which the startup depends.
      d. Performance Tests as appropriate.
   2. Functional performance tests.
      a. Static tests, as appropriate.
      b. Component performance tests. Some component performance tests may depend on completion of startup. Such component performance tests may follow startup.
      c. Equipment and assembly performance tests.
      d. System performance tests.
      e. Intersystem performance tests.

B. Before performing Functional performance tests, verify that materials, equipment, assemblies, and systems are delivered, installed, started, and adjusted to perform according to prefunctional checklist.

C. Verify readiness of materials, equipment, assemblies, and systems by performing tests prior to performing test demonstrations. Notify Architect if acceptable results cannot be achieved due to conditions beyond Contractor's control or responsibility.

D. Commence tests as soon as installation checks for materials, equipment, assemblies, or systems are satisfactorily completed. Tests of a particular system may proceed prior to completion of other systems, provided the incomplete work does not interfere with successful execution of test.

3.08 SCHEDULING

A. Commence commissioning as early in the construction period as possible.

B. Commissioning Schedule: Integrate commissioning into Contractor's construction schedule.

1. Include detailed commissioning activities in monthly updated Contractor's construction schedule and short interval schedule submittals.
2. Schedule the start date and duration for the following commissioning activities:
   a. Submittals.
   b. Preliminary operation and maintenance manual submittals.
   c. Installation checks.
   d. Startup, where required.
   e. Performance tests.
   f. Performance test demonstrations.
   g. Functional performance tests.
   h. Functional performance test demonstrations.
3. Schedule shall include a line item for each installation check, startup, and test activity specific to the equipment or systems involved.
4. Determine milestones and prerequisites for commissioning. Show commissioning milestones, prerequisites, and dependencies in monthly updated critical-path-method construction schedule and short interval schedule submittals.

C. Two-Week Look-Ahead Commissioning Schedule:
1. Two weeks prior to the beginning of tests, submit a detailed two-week look-ahead schedule. Thereafter, submit updated two-week look-ahead schedules weekly for the duration of commissioning.
2. Two-week look-ahead schedules shall identify the date, time, beginning location, Contractor personnel required, and anticipated duration for each startup or test activity.
3. Use two-week look-ahead schedules to notify and coordinate participation of Owner's witnesses.

D. Owner's Witness Coordination:
1. Coordinate Owner's witness participation via Architect.
2. Notify Architect of commissioning schedule changes at least [**two**] <**Insert number**> work days in advance for activities requiring the participation of Owner's witness.

3.09 COMMISSIONING REPORTS

A. Test Reports:
1. Pre-startup reports include observations of the conditions of installation, organized into the following sections:
   a. Equipment Model Verification: Compare contract requirements, approved submittals, and provided equipment. Note inconsistencies.
   b. Preinstallation Physical Condition Checks: Observe physical condition of equipment prior to installation. Note conditions including, but not limited to, physical damage, corrosion, water damage, or other contamination or dirt.
   c. Preinstallation Component Verification Checks: Verify components supplied with the equipment, preinstalled or field installed, are correctly installed and functional. Verify external components required for proper operation of equipment correctly installed and functional. Note missing, improperly configured, improperly installed, or nonfunctional components.
   d. Summary of Installation Compliance Issues and Corrective Actions: Identify installation compliance issues and the corrective actions for each. Verify that issues noted have been corrected.
   e. Evaluation of System Readiness for Startup: For each item of equipment for each system for which startup is anticipated, document in summary form acceptable to Owner completion of equipment model verification, preinstallation physical condition checks, preinstallation component verification checks, and completion of corrective actions for installation compliance issues.
2. Test data reports include the following:

a. "As-tested" system configuration. Complete record of conditions under which the test was performed, including, but not limited to, the status of equipment, systems, and assemblies; temporary adjustments and settings; and ambient conditions.
b. Data and observations, including, but not limited to, data trend logs, recorded during the tests.
c. Signatures of individuals performing and witnessing tests.
d. Data trend logs accumulated overnight from the previous day of testing.

3. Commissioning Compliance Issues Reports: Report as commissioning compliance issues results of tests and test demonstrations that do not comply with acceptance criteria. Report only one issue per commissioning compliance issue report. Use sequentially numbered facsimiles of commissioning compliance issue report form included in this Section, or other form approved by Owner. Distribute commissioning compliance issue reports to parties responsible for taking corrective action. Identify the following:
   a. Commissioning compliance issue report number. Assign unique, sequential numbers to individual commissioning compliance issue reports when they are created, to be used for tracking.
   b. Action distribution list.
   c. Report date.
   d. Test number and description.
   e. Equipment identification and location.
   f. Briefly describe observations about the performance associated with failure to achieve acceptable results. Identify the cause of failure if apparent.
   g. Diagnostic procedure or plan to determine the cause (include in initial submittal).
   h. Diagnosis of fundamental cause of issues as specified below (include in resubmittal).
   i. Fundamental cause of unacceptable performance as determined by diagnostic tests and activities.
   j. When issues have been resolved, update and resubmit the commissioning issue report forms by completing Part 2. Identify resolution taken and the dates and initials of the persons making the entries.
   k. Schedule for retesting.
4. Weekly progress reports include information for tests conducted since the preceding report and the following:
   a. Completed data forms.
   b. Equipment or system tested, including test number, system or equipment tag number and location, and notation about the apparent acceptability of results.
   c. Activities scheduled but not conducted per schedule.
   d. Commissioning compliance issue report log.
   e. Schedule changes for remaining Commissioning-Process Work, if any.
5. Data trend logs shall be initiated and running prior to the time scheduled for the test demonstration.
   a. Trend log data format shall be multiple data series graphs. Where multiple data series are trend logged concurrently, present the data on a common horizontal time axis. Individual data series may be presented on a segmented vertical axis to avoid interference of one data series with another, and to accommodate different axis scale values. Graphs shall be sufficiently clear to interpret data within the accuracy required by the acceptance criteria.
   b. Attach to the data form printed trend log data collected during the test or test demonstration.
   c. Record, print out, and attach to the data form operator activity during the time the trend log is running. During the time the trend log is running, operator intervention not directed by the test procedure invalidates the test results.
6. System Alarm Logs: Record and print out a log of alarms that occurred since the last log was printed. Evaluate alarms to determine if the previous day's work resulted in any conditions that are not considered "normal operation."

a. Conditions that are not considered "normal operation" shall be reported on a commissioning issue report attached to the alarm log. Resolve as necessary. The intent of this requirement is to discover control system points or sequences left in manual or disabled conditions, equipment left disconnected, set points left with abnormal values, or similar conditions that may have resulted from failure to fully restore systems to normal, automatic control after test completion.

3.10 CERTIFICATE OF CONSTRUCTION PHASE COMMISSIONING COMPLETION

A. When Contractor considers that construction phase commissioning, or a portion thereof which Owner agrees to accept separately, is complete, Contractor shall prepare and submit to Owner and Commissioning Authority through Architect a comprehensive list of items to be completed or corrected. Failure to include an item on such list does not alter Contractor's responsibility to compete commissioning.

B. On receipt of Contractor's list, Commissioning Authority will make an inspection to determine whether the construction phase commissioning or designated portion thereof is complete. If Commissioning Authority's inspection discloses items, whether included on Contractor's list, which is not sufficiently complete as defined in "Construction Phase Commissioning Completion" Paragraph in the "Definitions" Article, Contractor shall, before issuance of the Certificate of Construction Phase Completion, complete or correct such items on notification by Commissioning Authority. In such case, Contractor shall then submit a request for another inspection by Commissioning Authority to determine construction phase commissioning completion.

C. Contractor shall promptly correct deficient conditions and issues discovered during commissioning. Costs of correcting such deficient conditions and issues, including additional testing and inspections, the cost of uncovering and replacement, and compensation for Architect's and Commissioning Authority's services and expenses made necessary thereby, shall be at Contractor's expense.

D. When construction phase commissioning or designated portion is complete, Commissioning Authority will prepare a Certificate of Construction Phase Commissioning that shall establish the date of completion of construction phase commissioning. Certificate of Construction Phase Commissioning Completion shall be submitted prior to requesting inspection for determining date of Substantial Completion.

END OF SECTION 01 9113

SECTION 01 9119.43
EXTERIOR ENCLOSURE COMMISSIONING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Section includes building enclosure Cx process requirements for the above- and below-grade systems and assemblies:
   1. Opaque walls.
   2. Roofs.
   3. Openings.
   4. Interfaces.

B. Related Requirements:
   1. Section **01 9113 - General Commissioning Requirements** for general requirements for Cx processes including definitions, Cx team membership, Owner's responsibilities, Contractor's responsibilities, and CxA's responsibilities.

1.03 DEFINITIONS

A. Building Enclosure: Materials, components, systems, and assemblies intended to provide shelter and environmental separation between interior and exterior, or between two or more environmentally distinct interior spaces in a building or structure. The building enclosure includes, but is not limited to, exterior walls, above and below grade, and roof assemblies.

B. Cx: Commissioning, as defined in Section **01 9113 - General Commissioning Requirements**.

C. CxA: Commissioning Authority, as defined in Section **01 9113 - General Commissioning Requirements**.

D. "Systems," "Assemblies," "Subsystems," "Equipment," and "Components": Where these terms are used together or separately, they shall mean "as-built" systems, assemblies, subsystems, equipment, and components.

1.04 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Prefunctional Checklists: Draft Prefunctional Checklists will be created by CxA for Contractor review.

C. Cx Process Submittals:
   1. Test Reports: Prepared by a qualified testing agency for the test.
   2. Record Drawings: As-built drawings of mockups showing changes made during testing.

D. Field quality-control reports.

1.05 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For building envelope systems and components to include in operation and maintenance manuals.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 CONSTRUCTION CHECKLIST REVIEW

A. Review and provide written comments on draft Construction Checklists. CxA will create required draft Construction Checklists and provide them to Contractor.

B. Return draft Construction Checklist review comments within [**10**] <**Insert number**> days of receipt.

C. When review comments have been resolved, CxA will provide final Construction Checklists, marked "Approved for Use, (date)."

D. Use only Construction Checklists, marked "Approved for Use, (date)."

3.02 GENERAL TESTING REQUIREMENTS

A. If tests cannot be completed because of a deficiency outside the scope of the building enclosure systems, document the deficiency and report it to Owner. After deficiencies are resolved, reschedule tests.

B. If seasonal testing is specified, complete appropriate initial performance tests and documentation and schedule seasonal tests.

C. Coordinate schedule with, and perform Cx activities at the direction of the CxA.

3.03 BUILDING ENCLOSURE TESTING

A. Building Enclosure Testing: Perform testing before installation of interior finishes unless otherwise indicated.

B. Testing Agency: [**Owner will engage**] [**Engage**] a qualified testing agency to perform tests and inspections.

C. Expansion Building Enclosure Testing: Perform the following tests in the following order:
   1. Whole Building Air Leakage Rate by Fan Pressurization: ASTM E 779.
      a. Maximum Air Leakage Rate: <**Insert value**>.
   2. Whole Building Air Tightness Using an Orifice Blower Door: ASTM E 1827.
      a. Maximum Air Leakage Rate: <**Insert value**>.

END OF SECTION 01 9119.43