Goodwyn Mills Cawood
11 North Water Street
Suite 19290
Mobile, Alabama 36602
T 251.460.4006
F 251.460.4423

FASCIMILE TRANSMITTAL COVER SHEET

DATE: **April 28, 2025**

TO: **Doris Furr**

FROM: **Planholder**

PROJECT: **JACKSON MEDICAL CENTER ROOF REPLACEMENT**
THE CITY OF JACKSON HEALTH CARE AUTHORITY
GMC PROJECT NO. AMOB250003

RE: **ADDENDUM NO. 3 AND ACKNOWLEDGEMENT OF RECEIPT OF ADDENDUM NO. 3**

ACKNOWLEDGEMENT OF RECEIPT:

PLEASE PRINT RECIPIENT'S NAME, FIRM, AND DATE RECEIVED.

THEN FAX BACK TO (251) 460-4423 or EMAIL doris.furr@gmcnetwork.com
FOR OUR RECORDS AND TO ACKNOWLEDGE YOUR RECEIPT OF THIS ADDENDUM.

_____
NAME *(PLEASE PRINT)*

_____
FIRM *(PLEASE PRINT)*

_____
DATE RECEIVED *(PLEASE PRINT)*

ADDENDUM NUMBER 3 **April 28, 2025**

PROJECT:
JACKSON MEDICAL CENTER ROOF REPLACEMENT
THE CITY OF JACKSON HEALTH CARE AUTHORITY
GMC PROJECT NO. AMOB250003

AD3-1 CLARIFICATIONS / RFI RESPONSES / ADDITIONS / ETC.:

A. Bidders shall acknowledge receipt of the Addendum in writing, as provided on the Acknowledgment Receipt.

B. Please replace **All** Section 01 Specification Sections with the attached Section 01 Specification Sections.

C. Could you please provide the contact information of the mechanical, electrical, and plumbing sub you usually work with?
RESPONSE: It is the General Contractors responsibility to locate and hire qualified subcontractors for this project.

D. As specified in 07 7100 Roof Specialties, you are calling for a 3-coat finish for the copings; is a 2-coat finish with the same warranty as the 3-coat acceptable for this project?
RESPONSE: Yes.

E. Are shop-fabricated metals with ES-1 Compliance acceptable for this project?
RESPONSE: Yes.

AD3-2 ISSUED SPECIFICATIONS:

A.	Section 01 00 05	Project Safety
B.	Section 01 01 50	Special Conditions
C.	Section 01 03 00	Alternates
D.	Section 01 04 50	Cutting And Patching
E.	Section 01 10 10	Scope Of Work
F.	Section 01 11 00	Summary Of Work
G.	Section 01 13 50	Weather Delays
H.	Section 01 21 00	Allowances
I.	Section 01 22 00	Unit Prices
J.	Section 01 25 00	Substitutions Procedures

K.	Section 01 26 00	Contract Modification Procedures
L.	Section 01 29 00	Payment Procedures
M.	Section 01 31 00	Project Management And Coordination
N.	Section 01 32 00	Construction Progress Documentation
O.	Section 01 32 33	Photographic Documentation
P.	Section 01 33 00	Submittal Procedures
Q.	Section 01 36 00a	Quality Control Submittal
R.	Section 01 40 00	Quality Requirements
S.	Section 01 40 01	Quality Assurance Control And Documentation
T.	Section 01 42 00	References
U.	Section 01 42 16	Definitions And Standards
V.	Section 01 50 00	Temporary Facilities And Controls
W.	Section 01 52 40	Construction Waste Management
X.	Section 01 60 00	Product Requirements
Y.	Section 01 70 00	Execution Requirements
Z.	Section 01 77 00	Closeout Procedures
AA.	Section 01 78 39	Project Record Documents

AD3-3 ISSUED DRAWINGS:

NA

AD3-4 ATTACHMENTS:

A. Addendum No. 3 Received Response form

END OF ADDENDUM

PREPARED BY

Goodwyn Mills Cawood, LLC
11 North Water Street, Suite 19290
Mobile, Alabama 36602
T 251.460.4006
F 251.460.4223

SECTION 01 0005

PROJECT SAFETY

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Enforcement of Occupational Safety and Health Administration (OSHA) regulation.

B. Reporting of accidents.

C. Responsibility for safety.

D. Hot work permits.

1.2 ENFORCEMENT OF OSHA REGULATIONS

A. Contractor and all Subcontractors shall adhere to OSHA regulations as they apply to safety of working conditions, conditions of personnel, and environmental contaminations.

B. Contractor shall maintain on the project site a copy of OSHA regulations. Sections pertaining to safety as applied to the construction industry should be 'highlighted'.

1.3 REPORTING OF ACCIDENTS

A. Contractor shall report any accident or injury in writing to the Owner's Project Manager.

B. Report to identify persons involved, (name, addresses, phone number, title, etc.) work being performed, extent of injury, witnesses, time and circumstances of accident.

C. Injuries requiring hospitalization, medical evaluation report shall be submitted to Contractor, Owner, and Architect.

D. Provide copies of claims for Workman's Compensation insurance to Contractor and Owner.

1.4 RESPONSIBILITY FOR SAFETY - SUBCONTRACTOR

A. The Subcontractor or Tradesmen are solely responsible for the safety of working conditions and performance condition of personnel whom he has employed while present on the project site.

B. No Subcontractor shall commence work after another trade or proceed with work if unsafe conditions exist upon his arrival.

C. Drug testing of Subcontractors' personnel may be requested if persons who are suspect of being under the influence of drugs or alcohol. Cost of such testing to be at tested party's employer's expense.

1.5 RESPONSIBILITY FOR SAFETY - GENERAL CONTRACTOR

A. The Contractor is responsible for the safety of his personnel and the working conditions of the tradesmen he employs.

B. The Contractor is responsible for the total site working conditions and to monitor Subcontractors and other trades in their maintenance of safe working conditions.

C. Drug testing of Contractor's personnel if requested to be at employer's expense.

1.6 HOT WORK PERMITS

PART 2 - PRODUCTS (Not Used.)

PART 3 - EXECUTION (Not Used.)

END OF SECTION 01 0005

SECTION 010150

SPECIAL CONDITIONS

1.1 TIME FOR COMPLETION OF WORK: One-Hundred Twenty (120) Consecutive Calendar Days

A. The Contractor may proceed to award sub-contracts, assemble materials, etc., at any time after award of Contract and "Notice to Proceed" with Work is given by the Owner or Architect. The contractor's official time for construction to start on work shall be the earlier of either the date of the Owner's "Notice to Proceed" with Work or receipt of the fully executed Contract for the Work; and completion of the Work shall be within the stipulations indicated and the number of consecutive calendar days or by the date(s) indicated on the Contractor's Proposal Form.

1. Properly supervised work, per requirements, will be permitted on Saturdays and Sundays, subject to at least 72 hours prior notice and approval of the Owner.
2. Work will not be permitted during testing and/or examination time periods. The Contractor shall coordinate timing of testing and any other special activities with the Owner.

B. Acceptance of the completed Work of this Contract will be at a single date, and not in phases, unless otherwise indicated.

C. Nothing in the Contract Documents shall permit or be construed to permit payment to the Contractor for any extended overhead or profit due to completion of the project extending beyond the Contractual completion date. In no event shall the Owner or Architect be liable to the Contractor for damage due to any delay to any portion of the Work of this Contract.

D. Delays of exterior work due to inclement weather will be considered, only if the number of rain days exceeds the National Weather Service 5-year average for this project's location, and proof of same is submitted along with any such claim.

1. On-site records of daily rain and/or temperature readings kept by the Contractor may be accepted to verify weather and/or temperature variations which prevent exterior, and/or roofing materials installation.

1.2 LIQUIDATED DAMAGES:

A. Actual damages for delay in completion may be impossible to determine, and the Contractor shall be liable for and the Owner shall deduct as liquidated damages from the final payment due the Contractor, the following, as a mutually agreed to and fixed amounts.

1. For each calendar day of delay in completion of any part of the work beyond the number of days specified, the sum of **$1,000.00 per day**.
2. In the event that work on this project is incomplete and ongoing after the contractual completion date, beginning at ten (10) additional days thereafter, the

Owner will also charge the Contractor, **an additional $200.00 per day**, for the Owner's nominal reimbursement to the Architect for continued work on the project, which charges will continue until "Substantial Completion" is accomplished.

B. The submittal of a Bid and/or Proposal by any Contractor and their Subcontractors shall be construed as, in part, acknowledgment and acceptance of these provisions.

1.3 SITE RESTRICTIONS:

A. The limits of work and known restrictions are indicated on the Site Plan and various portions of the Drawings and the Project Manual.

1. Refer also to Section 011100 - "Summary of Work," for additional information.

1.4 PRE-BID CONFERENCE:

A. Refer to "Advertisement for Bids" for additional information and requirements.

1.5 PRE-CONSTRUCTION CONFERENCES:

A. Prior to commencing any work on the project, a pre-construction conference shall be held. Mandatory attendance will be required of the General Contractor and representative of all specialty and principal subcontractors involved in the project. Time and date of said conference shall be established by the Architect after award of construction contract.

B. Similarly, prior to commencing any major portion of the Work of the project, preconstruction conferences shall be held. Mandatory attendance will be required of the General Contractor and representative of all specialty and principal subcontractors involved in the individual major portions of project. Time and date of said conferences shall be established by the General Contractor, and the Architect, Owner, and appropriate Consultants shall be advised in writing of times and dates, by the General Contractor.

1. "Major portion" may be defined as work items for each Subcontractor working on site, and shall include in part, but not be limited to masonry work, mechanical system, Electrical Systems, and roofing systems.

1.6 CONTRACTOR ACCESS TO SITE:

A. The Contractor will have access to the site immediately upon issuance of Notice to Proceed with work. All routes of access to the site and gate locations by the Contractor or their subcontractors, are subject to approval by Owner, Architect, and other authorities having jurisdiction. Check site plan and drawings for location of work limits. Refer to Section 011100 - "Summary of Work" and Section 015000 - "Temporary Facilities," for additional requirements.

B. The Contractor shall be required to coordinate the Work of the project with the Owner's work activities, to the extent that the Work of this Contract has little or no effect on normal

operations. The Owner will occupy the building and adjacent structures for the duration of the project. Contractor shall provide all costs associated with daily cleanup of the site, barriers, barricades, construction tunnels, etc. for the proper and safe execution of the work.

1.7 CONTRACTOR'S PLAN FOR CONSTRUCTION OF PROJECT:

A. Contractor shall prepare and submit to the Architect for review and approval a Bar Graph, indicating their proposed plan and sequence of operations to complete each phase of this project, on schedule as required by contract. This Bar Graph may be a simple type and is not expected to be a Critical Path graph.

1.8 CONTRACTOR JOB MEETINGS:

A. On-Site Meetings with Architect, Owner, and various trades and subcontractors, shall be conducted by the Contractor on a bi-weekly basis for the purpose of furthering the progress of the work, solving construction problems, and issuing instructions.
The contractor shall provide updated RFI and ASI logs, Submittal Log, Change Order Request Log, Construction Schedule, 2 Week look-ahead of construction activities, and all other information required to review and maintain construction activities on the currently approved schedule.

B. Refer to "Pre-construction Conferences" paragraph above and "General Conditions of the Contract," for additional information and requirements.

1.9 STORED MATERIALS:

A. It is recognized that it may be necessary for the Contractor to store some materials for project at locations on the site, prior to removal or disposal. When such on-site storage is necessary, comply with requirements of the owner.

B. Store items to be incorporated in the Work in stable and secure manner, off ground, separated by hardwood or treated wood blocking, and under cover or in storage building.

1. Any materials found stored directly on ground or paving, in standing water, etc., will be rejected, immediately removed from site, and replaced with new materials at the Contractor's expense.
2. Distribute materials around framing and the roof in such manner as to prevent any damage to structure, construction, improvements, etc.

C. Refer to Section 011100 - "Summary of Work", for additional information and requirements for any off-site stored materials.

1.10 PROTECTION:

A. The Owner shall occupy the building and adjacent facilities for the duration of the project. The Contractor shall provide and maintain adequate and secure fencing, barricades, construction tunnels, and temporary dust partitions, where necessary and wherever

required or directed by the Owner or Architect. Building entrances and exits shall remain unobstructed when buildings are occupied. Remove temporary protections when acceptable to the Owner and authorities having jurisdiction, near the date of or just prior to "Substantial Completion."

B. The Contractor shall provide suitable protection for all employees, the public, users of other adjacent facilities, and the occupants of existing buildings at all times during the execution of and until the completion of the Work.

1. Construction equipment shall not come in contact with or swing over existing facilities to remain, public areas, occupied buildings, right-of-ways, etc., which are to remain.

C. The Contractor shall avoid damage as a result of their operations, to existing buildings, walks, pavement, curbs, lawns, shrubbery, trees, utilities, adjoining property, etc., and shall at their own expense, completely repair and or replace any damage thereto with new materials and or equipment caused by their operations. All repair work is subject to Architect's approval, and that of its Owner.

1.11 WORK LIMITS PROTECTION:

A. The Contractor shall locate all temporary buildings, storage of equipment, materials, etc., within a protected area to protect the public, building users, and others from the construction activities. Type and location of such protection shall be as indicated on the Drawings, or if not indicated, as proposed and furnished by the Contractor, subject to acceptance of the Architect, Owner, and authorities having jurisdiction.

1. Any such fencing shall be removed upon completion of the work of this project, removed from the site, and any post holes filled and compacted same as adjacent grade or paving, by the Contractor.
2. Responsibility and maintenance of such fencing and areas within such fencing shall be held by this Contractor beginning at the date of its erection and until its removal, close to the date of project completion.

1.12 EMPLOYMENT OF AND PAYMENT FOR TESTING SERVICES:

A. The following information regarding Employment of and Payment for Testing Services under the work of Specifications shall take precedence over any conflicting statements otherwise, which may have remained in the Project Manual after editing:

1. Initial testing required by the Contract Documents for Divisions 2 through 5 (except not utility systems testing), shall be provided by an independent testing agency selected, employed, and paid by the Owner.
2. Initial testing required by the Contract Documents for all other testing and Divisions 6 through 16 shall be provided by a testing agency acceptable to the Owner, and selected, employed, and paid by the Contractor from their Contract amount.

3. Any retesting required (due to failure of initial testing to meet the requirements of the Contract Documents) shall be at the Contractor's expense.
4. Any retesting required (due to questionable materials or construction methods, for verification purposes, and etc.) shall be at the Contractor's expense when the results of such retesting indicate any work or materials do not comply with requirements of the Contract Documents. Otherwise, such retesting will be at Owner's expense.
5. Any retesting under the above provisions shall be performed by the same Owner accepted testing agency.
6. Nothing in the Contract Documents shall prevent the Contractor from performing any other or additional Quality Control testing at his own expense, to verify compliance with the Bid and Contract Documents.

B. The Contractor shall be responsible for contacting and directions to the accepted testing agency and for any follow-up communications required, for all testing required by the Contract Documents.

C. No unsuitable or unsatisfactory existing soils or building materials (other than work in Contract) shall be removed without either the presence of or concurrence of and prior approval of the Architect and the accepted testing agency, so as to assure quality of the Work is maintained, and to verify quantities of any additional work under bid "Unit Prices", for which the Contractor is due payment by the Owner.

1.13 PROHIBITED MATERIALS:

A. ASBESTOS: All materials, equipment, components, accessories, and etc., installed in the work of this contract, both field installed and bought-out manufactured items from any source shall be 100-percent free of asbestos.

B. LEAD CONTENT: All water-bearing lines, water dispensing equipment, finish materials, and paint other than exposed exterior roof flashings, shall be 100-percent free of lead.

C. CALCIUM CHLORIDE: Calcium chloride and/or derivatives or additives thereof shall not be permitted in any concrete, concrete product, grout, masonry and/or mortar.

D. ENVIRONMENTAL REGULATIONS: All materials, their application, installation, and completion, shall comply with applicable environmental regulations, including in part, erosion, air-borne contaminants, and volatile organic compounds (VOC's).

E. FORMALDEHYDE: All insulation and other products shall be 100-percent free of formaldehyde.

1.14 PROJECT SIGNS:

A. Project sign – One Project Sign shall be required. Install in location as directed by the Owner.

B. Provide, securely install and maintain prefinished metal signs on each side of each gate leaf and at 50'-0" o.c. maximum on street/public side of all construction fencing provided (if any).

1. Copy: "NO TRESPASSING
DANGER
CONSTRUCTION AREA"

2. Size: Approximately 1'-6" wide x 1'-0" high.

C. Provide other pedestrian and vehicular signs as necessary and required, in compliance with requirements of authorities having jurisdiction. Signs shall remain on site for duration of this Contract.

D. General Contractor may have a sign on their Construction Office and as needed for delivery directions only.

E. Subcontractors will not be allowed to post signs.

1.15 EXPERIENCE, PERSONNEL AND SUPERINTENDENTS:

A. General Contractors and Subcontractors shall have no less than 5-years verifiable commercial experience in their trade and no less than 5-years verifiable commercial experience in their business enterprise contracting for work under this project; The type of work contracted or subcontracted for this project shall be the principal business of the Contractor or Subcontractor, respectively.

1. In addition, the General Contractor shall have completed no less than 5 verifiable commercial projects of similar scope, extent, complexity and dollar value during the last 3 years.
2. Failure to comply with these requirements will result in rejection of non-compliant bids.

B. Superintendents and foremen, or other individual in the lead or supervisory position for any portion of the Work under this Contract shall have no less than 10-years verifiable experience in performing the type of work they are responsible for.

1. The Contractor shall submit resumes of work and project experience for their Superintendent and foremen, as soon as possible and at least within five calendar days of receipt of the Contract to be executed for the work, for review and acceptance by the Owner and Architect.

1.16 SUBMITTALS:

A. Submittal requirements are indicated throughout the Contract Documents, and the following supplements those requirements.

1. Contractor will be required to make submittals for every item and product so indicated; also upon request, for any additional or other item or products intended for use or incorporation in the Work.

a. The Contractor shall submit to the Architect within 30 days of "Notice to Proceed", a complete listing of all required submittals, warranties, guarantees, close-out documents, and materials requiring extra or "attic" stock delivered to the Owner, for review and acceptance. Include for each item, the anticipated date of Submittal to the Architect. Re-submit until accepted or approved.
b. NOTE THAT RECEIPT OF THIS LIST BY THE ARCHITECT IS PREREQUISITE TO PROPER PROCECESSING, REVIEW AND RETURN OF SUBMITTALS, AS INDICATED IN GENERAL CONDITIONS AND THE FOLLOWING PARAGRAPHS.

2. The Contractor shall review, mark all necessary changes, revisions, and questions; and then stamp, sign, approve, and submit to the Architect all Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, and shall do so with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner, or of separate contractors.

    a. The Contractor shall not make submittals to the Architect which they have not reviewed, stamped, signed and approved by the Contractor; or in such case, no action will be taken by the Architect or their Consultants regarding that or those submittals.

3. In general, the Contractor shall submit 4-more copies for review than he needs returned. These copies will be retained for the Architect, Owner, and the appropriate Consultant.

    a. In general, review time will be limited to two weeks for individual submittals, except for more complex submittals, such as Structural, Division 15 and Division 16.
    b. NOTE: Submittals held and submitted in bulk (i.e.: 3 or more submittals) by the Contractor, shall be prioritized by the Contractor as to their importance and order in which they need to be reviewed. Such bulk submittals will be reviewed as soon as possible, but will not and cannot be reviewed simultaneously in two weeks.
    c. Colors will not be selected until most or all submittals required have been received and reviewed.

4. Submit no less than 4-each of any sample or color chart which is required or otherwise requested.
5. Submit test reports as required or otherwise requested, in the same quantity as other submittal data.
6. Contractor shall distribute reviewed submittals to all concerned and appropriate Subcontractors and Suppliers.

    a. Contractor shall maintain 1-set of reviewed submittals at their onsite job office.

B. Review and/or approval of submittals by the Architect, Owner and/or their Consultants shall not relieve the Contractor of their responsibility to comply with the requirements of the Contract Documents.

1. Any proposed change in the Work shall be submitted separate from any other item during construction, with same documentation as pre-bid requests, or they will not be considered.
2. No actual or proposed change shall be included in Shop Drawings or other Construction submittals, and none so included will be considered approved under any circumstances.
3. Shop Drawings are communications between the Contractor and various suppliers, fabricators, and subcontractors. The design professional's role is to review the drawings to answer questions that arise about design intent.
4. Even if a reviewed Shop Drawing or other Submittal has deviations from the original design and the Contract Documents, it in itself is not a Change Order and it is not, IN ITSELF, an approval of the change. Changes can only be approved by Change Order.
5. Dimensions, quantities, and coordination remain the Contractor's responsibility.

1.17 SUBSTITUTIONS, PRE-BID QUALIFICATIONS AND PRE-QUALIFIED SUPPLIERS:

A. Several areas of the Bid and Contract Documents pre-qualify suppliers, manufacturers, and/or products, subject to compliance with requirements also stated.

B. Acceptance of additional suppliers, manufacturers, and/or products in such instances shall be limited to those named, unless others are properly submitted at least 10-days prior to the Original Bid Date and subsequently accepted.

1. Where more or less days were originally stated in individual Sections of the Project Manual, the time limits for such submittals shall be as originally stated. Where no time limit was originally stated, the above 10-day limit shall apply.
2. Acceptance will only be in writing, by letter and/or Addendum.
3. Submittals during construction other than those pre-qualified or pre-accepted will not be reviewed, but instead, returned for re-submittal, without exception.

C. A proper pre-bid submittal for "pre-qualified" or "pre-accepted" consideration and review, shall be one which includes at least the following:

1. A cover letter signed by authorized person(s) which outlines the purpose of the submittal, Architect's specifications which apply, and each variation from the original specification.
2. All current and relevant manufacturer's published data, and additional information as required so that a review can be quickly made by comparing the submittal item for item to the original specification.
3. Samples and other data as required for the original item, as a minimum.

1.18 SITE MAINTENANCE:

A. The Owner will require all mud or debris resulting from this construction to be removed from streets, sidewalks, etc., by the Contractor as it appears, one or more times daily.

B. Trash, debris, etc., must be removed from the site daily, no exceptions.

C. The Contractor shall be responsible for maintaining existing landscaping and lawns within and below any construction activities or fencing, for the duration of the Work of the Contract, or until any such fencing is removed.

D. Refer to Sections 01010, 01500 and other locations in the Bid and Contract Documents for additional information and requirements.

1.19 ACCESSIBILITY OF ALL COMPLETED WORK:

A. All products and installations of the Work of this Contract, shall be as designed by the fabricator, manufacturer, etc., and installed by the Contractor, Subcontractors, etc., so as to provide full accessibility to the handicapped and/or disabled, unless specifically indicated otherwise. This shall include in part, the following:

1. Mounting heights of all electrical devices, switches, etc., all designated plumbing fixtures, and their operation, in all areas except mechanical and electrical rooms, and service areas which are not accessible at any time to the public or Owner's administrative (not service or maintenance) personnel.
2. Signage.
3. Door operation and hardware.
4. Elevators and chair lifts (if any).
5. Slip resistance of all completed flooring and walkway surfaces both interior and exterior.

B. Comply with the more stringent requirements of at least the following, either the latest edition or latest adopted edition of the locality, and all revisions and amendments thereto:

1. 2010 ADA Standards for Accessible Design, and all revisions and amendments thereto.
2. International Building Code, as applicable at the project locale.

1.20 CONTRACTOR PROGRAMS AND CONDUCT OF PERSONNEL:

A. The Contractor shall implement programs and make literature available to all construction and administration personnel to encourage making this project a safe place to work, including in part the following requirements: A project site free of any substance abuse, which does not allow any consumption of alcohol, and which does not allow any work to be performed while under the influence of any debilitating substance.

1. The Contractor and every Subcontractor shall have as part of their personnel, safety, substance abuse prevention, and/or quality programs, mandatory drug testing at pre-employment, post-accident, and at random during employees' tenure with their firms. Each such entity shall be prepared to provide non-confidential verification to the Owner that such testing is consistently on-going, upon Owner's request for same.

B. Programs shall be as acceptable to or recommended by one or more of the following:

1. Contractor's Underwriter for Worker's Compensation or liability insurance.
2. OSHA.
3. Associated General Contractors.
4. U.S. Department of Defense, Corps of Engineers, or Veterans Administration.

C. Conduct of all personnel employed for the Work of this project shall be held to a high standard and shall not be offensive to others on or around the site, including in part, pedestrians, the public, the Owner, Owner's Consultants, etc.

1. The Contractor and their employees shall limit any discussion of the Work of this project to the Owner's representative named in the front of this Project Manual, inspecting authorities with jurisdiction, and the Architect; In no instance shall this project be discussed with others, except as may otherwise be indicated herein.
2. The Contractor's personnel and Subcontractors shall not enter the Owner's building, nor use the Owner's telephones (except in emergencies), or the Owner's restrooms.

D. The Contractor shall immediately dismiss and escort off of the project site, any personnel who are obviously under the influence of alcohol or other debilitating substance, and any personnel exhibiting offensive behavior as described above or by law or by local statute or regulations of authorities having jurisdiction.

1.22 WORK BY OTHERS:

A. The following items of work are to be provided by others, and are Not in Contract (N.I.C.). The Contractor will be required to coordinate with the Owner as necessary to accommodate provisions for these items.

1. None

1.23 SELECTIVE DEMOLITION:

A. Section 02070 - "Selective Demolition," is applicable to the entire Work of this project and not just to Division 2 where it occurs.

END OF SPECIAL CONDITIONS

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SECTION 010300

ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF REQUIREMENTS:

A. Definition: An alternate is an amount proposed by Bidders and stated on the Bid Form that will be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either scope of work or in products, materials, equipment, systems or installation methods described in Contract Documents.

B. Coordination: Coordinate related work and modify or adjust adjacent work as required to ensure that work affected by each accepted alternate is complete and fully integrated into the project.

C. Notification: Immediately following award of Contract, prepare and distribute to each party involved, notification of the status of each alternate. Indicate whether alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to alternates, if any.

D. Schedule:

1. A “Schedule of Alternates” is included at the end of this section. Specification sections referenced in the Schedule contain requirements for materials and methods necessary to achieve the work described under each alternate.

2. Include as part of each alternate, miscellaneous devices, appurtenances and similar items incidental to or required for a complete installation whether or not mentioned as part of the alternate.

PART 2 - PRODUCTS

2.1 Not Applicable.

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES:

A. Alternate No. 1 – New Sloped Prefinished Metal Panel Soffit:
Contractor shall remove all existing sloped fiber soffits and associated framing and supports where they occur. Contractor shall provide and install new prefinished aluminum soffit panels and all required associated framing and miscellaneous materials accordance with Plans and Specifications and all related work for a complete and warrantable installation for its intended use and purpose.

B. Alternate No. 2 – Existing Concrete Soffit:
Contractor shall pressure wash, scrape, clean, patch and paint (primer and 2 finish coats) existing concrete soffits where they occur in accordance with Plans and Specifications as indicated and all related work for a complete and warrantable installation for its intended use and purpose.

END OF ALTERNATES

SECTION 01 0450

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF REQUIREMENTS:

A. Definition:

1. "Cutting and patching" includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.

2. "Cutting and patching" is performed for coordination of the Work, to uncover work for access or inspection, to obtain samples for testing, to permit alterations to be performed or for other similar purposes.

3. Cutting and patching performed during the manufacture of products, or during the initial fabrication, erection or installation processes is not considered to be "cutting and patching" under this definition. Drilling of holes to install fasteners and similar operations are also not considered to be "cutting and patching".

1.3 SUBMITTALS:

A. Procedural Proposal for Cutting and Patching:

1. Where prior approval of cutting and patching is required, submit proposed procedures for this work well in advance of the time work will be performed and request approval to proceed. Include the following information, as application, in the submittal.

2. Describe nature of the work and how it is to be performed, indicating why cutting and patching cannot be avoided. Describe anticipated results of the work in terms of changes to existing work, including structural, operational, and visual changes as well as other significant elements.

3. List products to be used and firms that will perform work.

4. Give dates when work is expected to be performed.

5. List utilities that will be disturbed or otherwise be affected by work, including those that will be relocated and those that work be out-of-service temporarily. Indicate how long utility service will be disrupted.

6. Approval by the Architect/Engineer to proceed with cutting and patching work does not waive the Architect/Engineer's right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. General: Except as otherwise indicated, or as directed by the Architect/Engineer, use materials for cutting and patching that are identical to specified materials. If identical materials are not available, or cannot be used, use materials that match adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal-or-better performance characteristics.

PART 3 - EXECUTION

3.1 INSPECTION:

A. Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.

3.2 PREPARATION:

A. Temporary Support: To prevent failure provide temporary support of work to be cut.

B. Protection:

1. Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations. The building shall be kept weather tight at all times during demolition and construction. Provide interior dust partitions, and drapes to avoid interior contamination. Any damages to the interior of the building including materials i.e., gyp bd. carpet, ceilings, painting, etc. and contents, i.e., medical equipment, furniture, drapes, computers, phones, etc. shall be replaced with new at the contractor's expense.

2. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3. Take precautions not to cut existing pipe, conduit or duct serving the building but scheduled to be relocated until provisions have been made to bypass them.

3.3 PERFORMANCE:

A. General: Employ skilled workmen to perform cutting and patching work. Except as otherwise indicated or as approved by the Architect/Engineer, proceed with cutting and patching at the earliest feasible time and complete work without delay.

B. Cutting:

1. Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with the original installer; comply with original installer's recommendations.
2. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.

C. Patching:

1. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.

2. Where feasible, inspect and test patched areas to demonstrate integrity of work.

3. Restore exposed finishes of patched areas and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.

4. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coat.

5. Patch, repair or rehang existing ceilings as necessary or called for on plans to provide an even plane surface of uniform appearance.

3.4 CLEANING:

A. Thoroughly clean interior and exterior areas and spaces where work is performed or used as access to work. Remove completely point, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF CUTTING AND PATCHING

SECTION 01 1010

SCOPE OF WORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and other Division 1 Specification Sections, apply to this section.

1.02 DESCRIPTION OF WORK

A. Scope of work to include but not limited to the following: Protection of interior and exterior existing improvements and systems including but not limited to life safety, interior finishes, windows, mechanical, electrical and plumbing systems, etc. Demolition including but not limited to; existing roofing down to existing roof deck, equipment curbs, flashings, electrical, mechanical, and plumbing systems, metal roof panels, fiber soffit systems, and all requirements of the plans and specifications. Installation of new low slope roofing systems, eave flashings, replacement of deteriorated roof decking, installation of new roof decking as required, installation of underlayment and self-adhering flashings, metal flashing, PVC roofing system, mechanical, electrical, and plumbing systems, new metal soffit panels and other construction as indicated on the drawings and all associated work required to provide a complete, functioning, weatherproof and warrantable project.

B. This work shall include, but not be limited to the following:

1. Contractor shall be responsible for **ALL** permits, fees, and bonds.
2. Full conformance with all requirements of the Contract Documents.
2. All layout required for the Work.
3. All necessary safety requirements and protective measures that relate to the work and pose exposure to workers, and the public.
4. Demolition and removal of existing items indicated not to remain.
5. Furnish all disposal equipment required for removal of demolition work, scrap, and debris.
6. All waste and excess material not intended for use, shall be removed from Owner's property daily and disposed of properly.
7. Maintain on a regular daily basis a broom-clean work area free of debris, including installation areas, material storage areas, and at all times access ways to and from the Work areas.
8. When the Work is completed, remove all tools, equipment, dunnage, unused materials, and debris from the Owner's property to provide a clean and safe site.

9. Tools, equipment, and material security are responsibility of the Contractor.
10. Coordinate this Contractor's work with the work of other contractors whose work relates to this work.
11. This work shall be completed in accordance with the project schedule stipulated in the Contract Document.
12. Contractor is responsible for any damages to existing fire alarm, smoke detectors, heat sensors, sprinkler systems, including but not limited to finishes, computers, medical equipment, cooking equipment,beds, carpets, furniture, etc.

1.03 ADDITIONAL REQUIREMENTS

A. It shall be the responsibility of the Contractor to protect **all** existing (interior and exterior) and new construction, equipment and finishes throughout the duration of the Work. Any damage caused by Contractor, Contractor's employees, subcontractors, equipment, or materials shall be repaired and/or material replaced as required by Owner at Contractor's expense. Bidders indicate their acceptance of these conditions with the submittal of their proposal form.

B. It will be the responsibility of the successful bidder to provide qualified supervision and labor in addition to all the necessary tools, equipment, and consumables necessary for the project. The Contractor shall provide his own dumpsters, if any, and pay all associated waste disposal fees. Dumpster location shall be coordinated with and approved by the Owner.

C. The Contractor must have a qualified supervisor on site at all times when workers are present and work is being performed. Contractor is to provide copies of licenses to perform services and proof of insurance.

C. All work is to be performed in strict accordance with all applicable Alabama Department of Environmental Management, Environmental Protection Agency and Occupational Safety and Health Administration, other state, and local regulations. Failure to comply with applicable regulations or laws shall be cause for immediate work suspension and possible contract cancellation. **It is the Contractor's responsibility to ensure a safe work environment for their employees, the public, and inhabitants of the building at all times.** Any work environment safety issues which the Contractor is unable to correct with the Owner's appointed coordinator, must be brought to the attention of the Safety and Environmental Compliance department with written notification prior to work activity. Bracing and additional equipment needed to perform work in elevated areas will be the Contractor's responsibility.

1.04 PROTECTION

A. Protect Owner's ground-level pavers and all wall surfaces. Pavers should be

removed completely, plywood base laid during crane usage, then pavers reinstalled.

1.05 SCOPE OF WORK:

A. PVC MEMBRANE REROOF TO DECK
1. Remove existing roofing to roof deck.
2. Install new PVC roofing system per the plans and specifications and in accordance with NRCA Roofing and Waterproofing Manual and manufacturer's instructions for a complete and edge to edge warrantable installation.
7. Provide 20-year NDL watertightness total system warranty, with twice a week manufacturer inspections and reporting confirming compliance with IBC 1503, 1504 and 1507.
8. Roofer shall act as Prime Contractor and will be responsible for associated electrical, mechanical, and plumbing work. Electrical work includes but is not limited to new conduits and writing, installation of waterproof vaults, disconnecting electrical roof top equipment and reconnecting per code requirements. Plumbing work includes but is not limited to raising soil stacks as needed to meet minimum 12" above finished roof height, replacing gas lines, running pvc conduit from HVAC units to gutters or roof drains. Mechanical work includes but is not limited to replacement of existing ductwork, installation of existing AHU's on new prefabricated AHU stands, and other work as described in the Contract Documents.

1.06 INTENT OF SPECIFICATIONS

A. The intent of these specifications is to describe the material and methods of construction required for the performance of the work. In general, it is intended that the drawings shall delineate the detailed extent of the work.

1.07 PROTECTION

A. The contractor shall use every available precaution to provide for the safety of the property owner, visitors to the site, and all persons connected with the work under the Contract.

B. All existing facilities both above and below ground shall be protected and maintained free of damage. Existing facilities shall remain operating during the period of construction unless otherwise permitted. All access roadways must remain open to traffic unless otherwise permitted.

C. Construction fencing with gates shall be erected to fence off all construction areas from operations personnel.

D. Safety Requirements:
1. All application, material handling, and associated equipment shall conform

to and be operated in conformance with OSHA safety requirements.

2. Comply with federal, state, and local and owner fire and safety requirements.
3. Advise owner whenever work is expected to be hazardous to owner employees and/or operations.
4. Maintain a crewman as a floor guard whenever roof decking is being repaired or replaced and whenever any roofing is being removed.
5. Maintain proper fire extinguisher within easy access whenever power tools, roofing kettles, and torches are being used.
6. ALL SAFETY REQUIREMENTS OF THE BUILDING OWNER MUST BE FOLLOWED. NO EXCEPTIONS WILL BE PERMITTED.

1.08 HOUSEKEEPING

A. Keep materials neat and orderly.

B. Remove scrap, waste, and debris from project area on a daily basis.

C. Maintenance of clean conditions while work is in progress and cleanup when work is completed shall be in strict accordance with the General Conditions of this contract.

D. Fire protection during construction.

E. Follow all requirements established by the building owner.

END OF SECTION 01 1010

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work by Owner.
4. Access to site.
5. Work restrictions.
6. Specification and drawing conventions.
7. Miscellaneous provisions.

B. Related Requirements:

1. Section 01 5000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

A. Project Identification: Jackson Medical Center Roof Replacement

B. Owner: The City of Jackson Healthcare Authority

1. Owner's Representative: Grady Bedwell

C. Architect: Goodwyn Mills Cawood, LLC., 11 North Water Street, Suite 19250, Mobile, Alabama 36602, 251-460-4006.

1. Jim Walker, AIA, Project Manager.

D. Scope of Work: Provide all demolition, modifications and improvements and all related work, and do so in accordance with the Bid and Contract Documents for the work indicated on the Drawings. Refer to the Drawings, "General Conditions of the Contract",

"Special Conditions" and other portions of the Project Manual for additional information and requirements. The Work shall include, in part:

1. Inspection of all existing areas prior to bid date, with Contractor's acceptance of existing conditions confirmed by the submittal of a Proposal / Bid, and further by written confirmation prior to the start of the Work.
2. The Work includes, in part, all demolition and construction of new roofing system and all related work and activities where indicated and as otherwise required to accommodate the new Work.
3. Provide for all costs relative to in part, necessary and required safety precautions and guidelines, without exception, whether or not indicated on the Drawings and in the Project Manual, and all related work; Note that safety and protection or persons and property remain the sole responsibility of the Contractor.
4. Provide all permits, licenses, and fees, paid by the Contractor from the contract amount.
5. Provide a full-time Project Manager and Superintendent for the duration of the Contract; Refer to "General Conditions of the Contract" and "Special Conditions" for additional information and requirements, and minimum experience requirements.
6. The Contractor shall be responsible in part, for the following, which shall be included in their Base Bid:

    a. Demolition of existing conditions and new construction of new roofing system as indicated on the Drawings and in the Project Manual, and all related work.
    b. Provide coordination and provide for all costs and expenses related to accessibility and any limitations of the project site, to include coordination and all costs for, transporting, deliveries, staging, storage, temporary storage, temporary lay-down, moving of materials and personnel in and out of the building, and all related work.
    c. Provide coordination and provide for all costs and expenses related to requirements for and limitations of the project site availability, project work hours, daily work hours, time frames / time of day or night.
    d. Contractor is responsible for all layout and controls relative to completion of the Work of the project. Immediate and written notification shall be given to the Architect of any discrepancies encountered, prior to proceeding with work in the affected area(s).
    e. Completion dates for the Work are indicated on the Proposal Form.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. Contract Documents indicate the work of the Contract and related requirements and conditions that have an impact on the project. Requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to, the following:

1. Existing site conditions and restrictions on use of the site

2. Demolition of existing roofing and construction of new roofing systems as indicated on the drawings and project manual for a complete warrantable project for its intended use and purpose.

3. Contractor shall pay for all costs associated with permitting.

B. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, Drawings, Addenda, and modifications to the contract documents issued subsequent to the initial printing of the contract documents and including, but not necessarily limited to, printed material referenced by any of these. It is recognized that work of the Contract is also unavoidably affected or influenced by governing regulations and building codes.

C. Type of Contract:

1. Project will be constructed under a single prime contract.

1.5 PERMITS AND INSPECTIONS

A. Secure, schedule, coordinate and pay for all permits, licenses and inspections required by codes, ordinances, statutes, administrative regulations, national standards, etc. which bear on the Work. The Contract Documents list certain codes, etc., but such listing is not all-inclusive. All construction shall meet the requirements of all applicable codes. If a conflict is found between code provisions and the contract documents, notify the architect immediately.

B. Governing Building Codes and current editions, intended to be used for this project are:

1. 2021 International Building Code
2. 2021 International Mechanical Code
3. 2021 International Plumbing Code
4. 2014 National Electrical Code (NFPA 70)
5. National Fire Protection Association (NFPA) 101 Life Safety Code 2015

1.6 CONTRACTOR USE OF PREMISES

A. General: The Contractor shall limit his use of the premises to the work indicated, so as to allow for Owner occupancy and use by the public.

B. Use of the Site: Confine operations at the site to the areas permitted under the Contract and as directed by the Owner. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to the site rules and regulations affecting the work while engaged in project construction.

1.7 SPECIFICATIONS AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 1 General Requirements: Requirements of Sections in Division 1 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found on the Documents.

END OF SUMMARY OF WORK

SECTION 01 1350

WEATHER DELAYS

PART 1 - GENERAL

1.1 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.

1.2 EXTENSIONS OF CONTRACT TIME

A. If the basis exists for an extension of time in accordance with Contract due to weather, and extension may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for the entire construction duration as a whole.

1.3 STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

A. Standard Baseline shall be regarded as the normal and anticipatory number of calendar days for each month during which construction activity shall be expected to be prevented and suspended by cause of precipitation in excess of one-tenth inch (0.10") liquid measure. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.

B. Standard Baseline (based upon precipitation in excess of one-tenth inch (0.10") liquid measure) established for this contract is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
7	6	7	5	5	7	7	7	5	4	4	6

1.4 ADVERSE WEATHER AND WEATHER DELAY DAYS

A. Adverse Weather is defined as the occurrence of one or more of the following conditions which prevents exterior construction activity or access to the site within twenty-four (24) hours:

1. Precipitation (rain, snow, or ice) in excess of one-tenth inch (0.10") liquid measure;
2. Temperatures which do not rise above 32 degrees F by 10:00 a.m.;
3. Temperatures which do not rise above that specified for the day's construction activity by 10:00 a.m., if any is specified;
4. Sustained wind in excess of twenty-five (25) m.p.h.;
5. Any day that the Owner has requested no work to be performed.

B. A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the Contractor's scheduled work day, including a weekend day or holiday if Contractor has scheduled construction activity that day.
Adverse Weather may include "dry-out" or "mud" days, as determined by the Architect such as:

1. For rain days above the standard baseline.
2. Only if there is a hindrance to site access or sitework, such as excavation, embankment, backfill, footings, etc. (see 4. & 5. below).
3. At a rate no greater than one (1) make-up day for each day or consecutive days of rain beyond the standard baseline that total 0.1 inch or more, liquid measure, if no substantial work is possible (see 4. & 5. below), unless specifically recommended otherwise by the Architect.
4. If the Contractor's activity is limited to approximately 50% of the Contractor's activity before the Adverse Weather occurrence, then one-half (½) a weather delay day will be counted. For example if the Contractor is disking excavation and embankment areas to dry in situ moisture in the soils or hauling and placing unclassified excavation or borrow material to the embankment before an Adverse Weather occurrence, but is able to continue disking excavation and embankment areas or placing unclassified excavation or borrow material, one-half (½) a Weather Delay Day will be allowed.
5. If the Contractor's activity is limited to minor activity when compared to the Contractor's activity before the Adverse Weather occurrence, then one (1) weather delay day will be counted. For example if the Contractor is disking excavation and embankment areas to dry in situ soils, hauling borrow material to embankment before an Adverse Weather occurrence, but is only able to disk excavation and embankment areas to dry them due to the Adverse Weather occurrence, one (1) Weather Delay Day will be allowed.

C. If the Contractor is able to only perform disking operations to dry excavation and embankment areas due to in situ moisture in the soil, this is not considered an Adverse Weather occurrence or a Weather Delay Day and is considered to be a part of normal construction activities whether any other work can be performed or not.

D. The Architect or Owner will compile monthly weather data from the Local National Weather Station or from on-site observations. The determination of Contractor's entitlement for any Weather Delay days, as defined hereinabove, will be based on the entire construction duration in lieu of a month-by-month consideration. The entitlements will consider those months that conditions are better or worse than the Standard Baseline established for this contract.
For example:

1. If the total number of standard baseline days is forty one (41) days and there are thirty six (36) days with precipitation in excess of one tenth inch (0.10") liquid measure and ten (10) weather delay days, giving a total of forty six (46) rain and weather delay days. This would amount to five (5) days in excess of the total baseline days. Five (5) additional days will be added to the contract time.
2. If the total standard baseline is forty one (41) days and there are twenty (28) days with precipitation in excess of one tenth inch (0.10") liquid measure and nine (9) weather delay days, giving a total of thirty seven (37) rain and weather delay days. This would amount to four (4) days better than the total baseline days. Four (4) days will be deducted from the contract time.

E. Baseline days will be prorated when partial months are a part of overall contract time. For example:

1. If the contract begins on April 11, including April 11, there are twenty (20) calendar days remaining in April. Twenty (20) remaining calendar days divided by thirty (30) total calendar days in April equals 0.6667. Six (6) total baseline days established for April multiplied times 0.6667 equals four (4) baseline days for the remaining twenty calendar days in April.

F. Section 01 13 50, Weather Delays establishes an anticipated number of days of lost construction time for each month.

1. To calculate any liquidated damages for Work that is not completed on time, the number of baseline days for the actual total construction time will be calculated from the standard baseline.
2. The number of weather delay days for the actual total construction time will be calculated.
3. The difference in weather delay days and baseline days will then be calculated. Months that has less weather delay days than baseline days will result in a negative number.
4. The resulting difference will then be added to the contract time.
5. The difference in the actual total construction time and the contract time plus weather delay days in excess of the baseline will determine if and what the actual amount of liquidated damages will be.

Using a hypothetical for example if:

FROM	TO	BASELINE DAYS	ACTUAL WEATHER DELAY DAYS	NUMBER OF DAYS IN EXCESS OF BASELINE
July 1, 2025	July 31, 2025	5	3	-2
Aug. 1, 2025	Aug. 31, 2025	7	11	+4
Sept. 1, 2025	Sept. 30, 2025	1	4	+3
		13	18	+5
Contract Time				60
Contract Time + Number Of Weather Delay Days In Excess Of Baseline				65
Actual Construction Time				67
Days Of Liquidated Damages				2

Throughout the duration of the contract, the Contractor and Architect shall reconcile impacts due to weather on a monthly basis. The Contractor shall submit monthly with the pay request an itemized list of; days impacted by weather, scheduled activity that was impacted and the impact which caused the delay (temperature, mud, snow, etc.).

END OF WEATHER DELAYS

SECTION 01 2100

ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General Conditions and Division-1 Specification sections, apply to work of this section.

1. Coordinate allowance work with related work to ensure that it is completely integrated and interfaced with related work.
2. **Include in Base Bid.**

1.2 DESCRIPTION OF REQUIREMENTS:

A. Definitions and Explanations: Certain requirements of the work related to each allowance are shown and specified in contract documents. The allowance has been established in lieu of additional requirements for that work, and further requirements thereof (if any) will be issued by change order.

B. Types of allowances scheduled herein for the work included the following:

1. Lump sum allowances.

C. Selection and Purchase:

1. At earliest feasible date after award of Contract, advise Architect/Engineer of scheduled date when final selection and purchase of each product or system described by each allowance must be accomplished in order to avoid delays in performance of the work.
2. As requested by the Architect/Engineer, obtain and submit proposals for the work of each allowance for use in making final selections; include recommendations for selection which are relevant to the proper performance of the work.
3. Purchase products and systems as specified, and as selected (in writing) by the Architect/Engineer.
4. Submit proposals and recommendations, for purchase of products or systems of allowances, in form specified for change orders.

D. Change Order Data: Include in each change order proposal both the quantities of products being purchased and unit costs, along with total amount of purchases to be made. Where requested, furnish survey-of-requirements data to substantiate quantities. Indicate applicable taxes, delivery charges, amounts of applicable trade discounts, and other relevant details as requested by the Architect.

1. Each change order amount for allowances shall be based on the unit price difference between the actual purchase amount and the allowance, multiplied by the final measure or count of work-in-place, with reasonable allowances, where applicable, for cutting losses, tolerances, mixing wastes, normal product imperfections and similar margins.
2. When requested, prepare explanations and documentation to substantiate the quantities, costs, and margins as claimed.

E. Change Order Mark-Up:

1. Except as otherwise indicated, comply with provisions of General Conditions. For each allowance, Contractor's claims for increased costs (for either purchase amount or Contractor's handling, labor, installation, overhead, and profit), because of a change in scope or nature of the allowance work as described in contract documents, must be submitted within 60 days of initial change order authorizing work to proceed on that allowance; otherwise, such claims will be rejected.
2. Where it is not economically feasible to return unused material to the manufacturer/supplier for credit, prepare unused material for the Owner's storage, and deliver to the Owner's storage space as directed. Otherwise, disposal of excess material is the Contractor's responsibility.

F. Time and Allowance Amounts:

1. Nothing in the Bid or Contract Documents shall be so constructed or interpreted as to provide a Contract time extension, due to use or non-use of any Allowance amount.
2. Nothing in the Bid or Contract Documents shall be so constructed or interpreted as to allow unused Allowances or any portion thereof, nor any overhead and profit therefor to be retained by or paid to the Contractor.

    a. Amount of unused allowances to be returned shall include unused amount plus 10% overhead and profit.

PART 2 - PRODUCT

Not Applicable.

PART 3 – EXECUTION

3.1 SCHEDULE OF ALLOWANCES - INCLUDE IN BASE BID:

A. Allowance No. 1 – OWNER CONTINGENCY ALLOWANCE:

1. Allow a lump sum of Seventy Thousand Dollars ($70,000.00)for the correction of existing, unforeseen conditions and or additional work as directed by the Owner or Architect.

2. Include overhead and profit in Base Bid, and not as part of Allowance.

END OF ALLOWANCES

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SECTION 01 2200

UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Attachment A Proposal Form and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Sections:

1. Section 01400 "Quality Requirements" for general testing and inspecting requirements.

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A list of unit prices is included in Part 3 of this Specification Section and contains requirements for materials described therein.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Unit prices for material are total installed cost including labor, equipment, and all markups.

B. Unit Price No. 1: 2x6 P.T. Wood Blocking:

1. Description: Pressure Treated wood blocking installation where required.

2. Unit of Measurement: Board feet of wood blocking in place.

C. Unit Price No. 2: 2x4 P.T. Wood Blocking:

1. Description: Wood blocking installation where required.

2. Unit of Measurement: Board feet of wood blocking in place.

D. Unit Price No. 3: 3/4" Tongue and Groove Plywood Decking

1. Description: Pressure Treated plywood decking installation where required.

2. Unit of Measurement: Square feet of plywood decking in place.

E. Unit Price No. 4: Polyiso Rigid Insulation

1. Description: Polyiso rigid insulation installation and fill, ¼" per foot slope min. 8" thickness

2. Unit of Measurements: 200 Cubic Feet

F. Unit Price No. 5: Exterior Sealant:

1. Description: provide and install exterior joint sealant up to 20' work height in accordance with Section 079000 Joint Sealers

2. Unit of Measurement: 1,000 LF.

G. Unit Price No. 6: Painting:

1. Description: pressure wash, scrape, clean, patch and paint (primer and 2 coats)

2. Unit of Measurement: 200 square feet.

END OF SECTION 01 2700

SECTION 01 2500

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Sections:

1. Division 1 Section "Alternates" for products selected under an alternate.
2. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
3. Divisions 2 through 32 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.

1.4 SUBMITTALS

A. Substitution Requests: Submit three copies of 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.

1. Substitution Request Form: Use CSI Form 13.1A.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable. *All requests for substitution must be received prior to the*

submission of the submittal schedule or the first 60 days of the contract, whichever is most restrictive.

b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. *Substitutions for Cause*: Submit requests for substitution immediately upon discovery of need for change, but not later than 30 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

    a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    b. Substitution request is fully documented and properly submitted.
    c. Requested substitution will not adversely affect Contractor's construction schedule.
    d. Requested substitution has received necessary approvals of authorities having jurisdiction.
    e. Requested substitution is compatible with other portions of the Work.
    f. Requested substitution has been coordinated with other portions of the Work.
    g. Requested substitution provides specified warranty.
    h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed, unless otherwise indicated.

PART 3 - EXECUTION (Not Used)

END OF SUBSTITUTIONS PROCEDURES

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SECTION 01 2600

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections:

1. General Conditions of the Contract for Construction for the fee allowed to Contractor for overhead and profit and the limitations of costs applicable to the fee allowed to the Contractor for overhead and profit.

2. Section 01 2500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or 10 days, when not otherwise specified after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include cost of labor directly attributable to the change.
d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
e. Overhead and Profit: Additions to the Contract Sum shall include the Contractor's direct costs plus a maximum 10% markup for overhead and profit. Where subcontract work is involved the mark-up for the Contractor and a Subcontractor shall not exceed a total of 15%. No allowance for overhead and profit shall be figured on a change which involves a net credit to the Owner.

1) "Overhead" shall cover the Contractor's indirect costs of the change, such as the cost of bonds, superintendent and other job office personnel, watchman, job office, job office supplies and expenses, temporary facilities and utilities, home office expenses, small tools, and fuel.

2) The General Conditions of the Contract for Construction (Article 7) shall govern the fee allowed to Contractor for overhead and profit and shall limit the costs applicable to the fee allowed to the Contractor for overhead and profit.

f. Quotation Form: Use forms acceptable to Owner.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Overhead and Profit: Additions to the Contract Sum shall include the Contractor's direct costs plus a maximum 10% markup for overhead and profit. Where subcontract work is involved the mark-up for the Contractor and a Subcontractor shall not exceed a total of

15%. No allowance for overhead and profit shall be figured on a change which involves a net credit to the Owner.

a. "Overhead" shall cover the Contractor's indirect costs of the change, such as the cost of bonds, superintendent and other job office personnel, watchman, job office, job office supplies and expenses, temporary facilities and utilities, home office expenses, small tools, and fuel.
b. The General Conditions of the Contract for Construction (Article 7) shall govern the fee allowed to Contractor for overhead and profit and shall limit the costs applicable to the fee allowed to the Contractor for overhead and profit

7. Comply with requirements in Division 1 Section "Product Substitution" if the proposed change requires substitution of one product or system for product or system specified.
8. Proposal Request Form: General Contractor's option, acceptable to Architect.

1.5 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: Refer to Division 1 Section "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

B. Unit-Price Adjustment: See Division 1 Section "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.6 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701 or form included in Project Manual.

1.7 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

END OF CONTRACT MODIFICATION PROCEDURES

SECTION 01 2900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Division 1 Section "Allowances" for procedural requirements governing the handling and processing of allowances.
2. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
3. Division 1 Section "Unit Prices" for administrative requirements governing the use of unit prices.
4. Division 1 Section "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of Contractor's construction schedule.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule. Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with continuation sheets.
b. Submittal schedule.
c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Architect at earliest possible date, but no later than fourteen days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

a. Project name and location.
b. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
3. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
4. Provide a separate line item in the schedule of values for each part of the Work where Applications 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. If required, include evidence of insurance.

5. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
6. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
7. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit 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 Contractor's option.

8. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: Submit Application for Payment to Architect by the 25th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

1. Submit draft copy of Application for Payment five days prior to due date for review by Architect.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

    a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.

c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

F. Transmittal: Submit four signed and notarized original copies of each Application for Payment by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit executed waivers of lien on forms, acceptable to Owner.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Products list (preliminary if not final).
5. Schedule of unit prices.
6. Submittal schedule (preliminary if not final).
7. List of Contractor's staff assignments.
8. List of Contractor's principal consultants.
9. Copies of building permits.
10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
11. Initial progress report.
12. Report of preconstruction conference.
13. Certificates of insurance and insurance policies.
14. Performance and payment bonds.
15. Data needed to acquire Owner's insurance.

I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF PAYMENT PROCEDURES

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SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. General project coordination procedures.
   2. Administrative and supervisory personnel.
   3. Coordination drawings.
   4. Requests for Information (RFIs).
   5. Project meetings.

B. Related Sections:
   1. Division 1 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
   2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
   3. Division 1 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
   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. Project closeout activities.
   8. Startup and adjustment of systems.
   9. 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.

1.5 COORDINATION DRAWINGS

A. Coordination Drawings, 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. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
      c. Indicate space requirements for routine maintenance and for anticipated

replacement of components during the life of the installation.

d. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
e. Indicate required installation sequences.
f. Indicate dimensions shown on the Drawings. 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.

B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. *Demolition Plans and Roof Plans*: Show architectural elements, such as roof plan, elevations and details where required to adequately represent the Work.
2. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility. If the Architect determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Architect will so inform the Contractor, who shall make changes as directed and resubmit.
3. Coordination Drawing Prints: Prepare coordination drawing prints in accordance with requirements of Division 1 Section "Submittal Procedures."

1.6 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, and by each temporary telephone. Keep list current at all times.

1.7 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
2. Project number.

3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. *Contractor's suggested resolution.* If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms:

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 2:00 p.m. Central time will be considered as received the following working day.
1. The following RFIs will be returned without action:
    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for coordination information already indicated in the Contract Documents.
    d. Requests for adjustments in the Contract Time or the Contract Sum.
    e. Requests for interpretation of Architect's actions on submittals.
    f. Incomplete RFIs or inaccurately prepared RFIs.
    g. If the RFI is submitted without suggested resolution and the issue affects the contract schedule, the RFI will be returned for suggested resolution without comment.
2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify *Architect in writing within 7 days of receipt of the RFI response.*

E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within 4 days if Contractor disagrees with response.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
1. Project name.

2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

A. General: General Contractor shall schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
   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: Contractors representative responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 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. Critical work sequencing and long-lead items.
      c. Designation of key personnel and their duties.
      d. Procedures for processing field decisions and Change Orders.
      e. Procedures for RFIs.
      f. Procedures for testing and inspecting.
      g. Procedures for processing Applications for Payment.
      h. Distribution of the Contract Documents.
      i. Submittal procedures.
      j. Preparation of record documents.
      k. Work restrictions.
      l. Working hours.
      m. Responsibility for temporary facilities and controls.

n. Construction waste management and recycling.
o. Equipment deliveries and priorities.
p. First aid.
q. Security.
r. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation 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 particular activity under consideration, including requirements for the following:
a. Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Submittals.
f. Review of mockups.
g. Possible conflicts.
h. Compatibility problems.
i. Time schedules.
j. Weather limitations.
k. Manufacturer's written recommendations.
l. Warranty requirements.
m. Compatibility of materials.
n. Acceptability of substrates.
o. Space and access limitations.
p. Regulations of authorities having jurisdiction.
q. Testing and inspecting requirements.
r. Installation procedures.
s. Coordination with other work.
t. Required performance results.
u. Protection of adjacent work.
v. 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. Project Closeout Conference: Schedule and conduct a Project closeout conference, at a time convenient to Owner and Architect, but no later than 60 days prior to the scheduled date of Substantial Completion.
   1. Conduct the conference to review requirements and responsibilities related to Project closeout.
   2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
   3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
      a. Preparation of record documents.
      b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
      c. Submittal of written warranties.
      d. Requirements for preparing operations and maintenance data.
      e. Requirements for demonstration and training.
      f. Preparation of Contractor's punch list.
      g. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
      h. Submittal procedures.
      i. Owner's partial occupancy requirements.
      j. Installation of Owner's furniture, fixtures, and equipment.
      k. Responsibility for removing temporary facilities and controls.
   4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

E. Progress Meetings: Contractor shall schedule and conduct progress meetings at biweekly intervals.
   1. Coordinate dates of meetings with preparation of payment requests.
   2. Attendees: In addition to representatives of Owner and Architect, 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.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Progress cleaning.
10) Quality and work standards.
11) Status of correction of deficient items.
12) Field observations.
13) Status of RFIs.
14) Status of proposal requests.
15) Pending changes.
16) Status of Change Orders.
17) 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF PROJECT MANAGEMENT AND COORDINATION

SECTION 01 3200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Start-up construction schedule.
   2. Contractor's construction schedule.
   3. Daily construction reports.
   4. Material location reports.
   5. Field condition reports.
   6. Special reports.

B. Related Sections:
   1. Division 1 Section "Submittal Procedures" for submitting schedules and reports.
   2. Division 1 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
   1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
   2. Predecessor Activity: An activity that precedes another activity in the network.
   3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.

C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.
   1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
   2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
   3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

F. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:
   1. PDF electronic file.
   2. Three paper copies.

B. Start-up construction schedule.
   1. Approval of cost-loaded start-up construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
   1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
   2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
   3. Total Float Report: List of all activities sorted in ascending order of total float.

E. Daily Construction Reports: Submit at monthly intervals.

F. Material Location Reports: Submit at monthly intervals.

G. Field Condition Reports: Submit at time of discovery of differing conditions.

H. Special Reports: Submit at time of unusual event.

1.5 QUALITY ASSURANCE

A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:
   1. Review software limitations and content and format for reports.
   2. Verify availability of qualified personnel needed to develop and update schedule.
   3. Discuss constraints, including phasing work stages area separations interim milestones and partial Owner occupancy.
   4. Review delivery dates for Owner-furnished products.
   5. Review time required for review of submittals and resubmittals.
   6. Review requirements for tests and inspections by independent testing and inspecting agencies.
   7. Review time required for completion and startup procedures.
   8. Review and finalize list of construction activities to be included in schedule.
   9. Review submittal requirements and procedures.
   10. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
   1. Secure time commitments for performing critical elements of the Work from entities involved.
   2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.
   1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
   1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.

2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
4. Startup and Testing Time: Include not less than 15 days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
6. Punch List and Final Completion: Include not more than 30 days for punch list and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
2. Work Restrictions: Show the effect of the following items on the schedule:
    a. Partial occupancy before Substantial Completion.
    b. Use of premises restrictions.
    c. Seasonal variations.
    d. Environmental control.
3. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
    a. Subcontract awards.
    b. Submittals.
    c. Purchases.
    d. Mockups.
    e. Fabrication.
    f. Deliveries.
    g. Installation.
    h. Tests and inspections.
    i. Adjusting.
    j. Startup and placement into final use and operation.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

E. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
1. Refer to Division 1 Section "Payment Procedures" for cost reporting and payment procedures.

F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
   1. Unresolved issues.
   2. Unanswered RFIs.
   3. Rejected or unreturned submittals.
   4. Notations on returned submittals.

G. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance and date, by which recovery will be accomplished.

H. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 START-UP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within seven days of date established for the Notice of Award.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. CPM Schedule: Prepare Contractor's construction schedule using a cost- and resource-loaded, time-scaled CPM network analysis diagram for the Work.
   1. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
   2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
   3. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to correlate with Contract Time.

C. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the start-up network diagram, prepare a skeleton network to identify probable critical paths.
   1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:

a. Preparation and processing of submittals.
b. Mobilization and demobilization.
c. Purchase of materials.
d. Delivery.
e. Fabrication.
f. Installation.
g. Work by Owner that may affect or be affected by Contractor's activities.
h. Testing.
i. Punch list and final completion.
j. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
   a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain Architect's approval prior to assigning costs to fabrication and delivery activities. Assign costs under principal subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents, and demonstration and training (if applicable), in the amount of 5 percent of the Contract Sum.
   a. Each activity cost shall reflect an appropriate value subject to approval by Architect.
   b. Total cost assigned to activities shall equal the total Contract Sum.

D. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.

E. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
2. Description of activity.
3. Principal events of activity.
4. Immediate preceding and succeeding activities.
5. Early and late start dates.
6. Early and late finish dates.
7. Activity duration in workdays.
8. Total float or slack time.
9. Average size of workforce.
10. Dollar value of activity (coordinated with the schedule of values).

F. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
   1. Identification of activities that have changed.
   2. Changes in early and late start dates.
   3. Changes in early and late finish dates.
   4. Changes in activity durations in workdays.
   5. Changes in the critical path.
   6. Changes in total float or slack time.
   7. Changes in the Contract Time.

G. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
   1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
   2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
   3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
   4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
      a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
      b. Submit value summary printouts one week before each regularly scheduled progress meeting.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
   1. List of subcontractors at Project site.
   2. Approximate count of personnel at Project site.
   3. Equipment at Project site.
   4. Material deliveries.
   5. High and low temperatures and general weather conditions, including presence of rain or snow.
   6. Accidents.
   7. Meetings and significant decisions.
   8. Unusual events (refer to special reports).
   9. Orders and requests of authorities having jurisdiction.
   10. Change Orders received and implemented.
   11. Construction Change Directives received and implemented.
   12. Equipment or system tests and startups.
   13. Partial completions and occupancies.
   14. Substantial Completions authorized.

B. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site and offsite. List shall be cumulative, showing

materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
   1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
   2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
   3. As the Work progresses, indicate final completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
   1. Post copies in Project meeting rooms and temporary field offices.
   2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF CONSTRUCTION PROGRESS DOCUMENTATION

SECTION 01 32 33

PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Preconstruction video recordings.

B. Related Requirements:

1. Section 01 33 00 "Submittal Procedures" for submitting photographic documentation.
2. Section 01 77 00 "Closeout Procedures" for submitting photographic documentation as project record documents at Project closeout.
3. Section 01 79 00 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.
4. Section 02 41 16 "Structure Demolition" for photographic documentation before building demolition operations commence.
5. Section 02 41 19 "Selective Structure Demolition" for photographic documentation before selective demolition operations commence.
6. Section 31 10 00 "Site Clearing" for photographic documentation before site clearing operations commence.

1.3 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph or video recording. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

B. Digital Photographs: Submit image files within three days of taking photographs.

1. Digital Camera: Minimum sensor resolution of 8 megapixels.

2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
3. Identification: Provide the following information with each image description in file metadata tag:

    a. Name of Project.
    b. Name of Architect.
    c. Name of Contractor.
    d. Date photograph was taken.
    e. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
    f. Unique sequential identifier keyed to accompanying key plan.

C. Recording.

1. Submit video recordings in digital video disc format.
2. Identification: With each submittal, provide the following information:

    a. Name of Project.
    b. Name of Architect.
    c. Name of Contractor.
    d. Date video recording was recorded.
    e. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
    f. Weather conditions at time of recording.

3. Transcript: Prepared on 8-1/2-by-11-inch paper, punched and bound in heavy-duty, three-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as corresponding video recording. Include name of Project and date of video recording on each page.

1.4 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.

B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

1. Date and Time: Include date and time in file name for each image.
2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect.

C. Preconstruction Photographs: Before commencement of demolition, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.

1. Flag construction limits before taking construction photographs.
2. Take 20 photographs to show existing conditions adjacent to property before starting the Work.
3. Take 20 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

3.2 CONSTRUCTION VIDEO RECORDINGS

A. Recording: Mount camera on tripod before starting recording unless otherwise necessary to show area of construction. Display continuous running time and date. At start of each video recording, record weather conditions from local newspaper or television and the actual temperature reading at Project site.

B. Narration: Describe scenes on video recording by **audio narration by microphone while** video recording is recorded. Include description of items being viewed, recent events, and planned activities. At each change in location, describe vantage point, location, direction (by compass point), and elevation or story of construction.

1. Confirm date and time at beginning and end of recording.
2. Begin each video recording with name of Project, Contractor's name, videographer's name, and Project location.

C. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from video recording opposite the corresponding narration segment.

D. Preconstruction Video Recording: Before starting demolition, record video recording of Project site and surrounding properties from different vantage points.

1. Flag construction limits before recording construction video recordings.
2. Show existing conditions adjacent to Project site before starting the Work.
3. Show existing buildings either on or adjoining Project site to accurately record physical conditions at the start of demolition.
4. Show protection efforts by Contractor.

END OF PHOTOGRAPHIC DOCUMENTATION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Sections:
1. Division 1 Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
3. Division 1 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
4. Division 1 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
5. Division 1 Section "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

A. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as informational submittals.

B. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and additional time for handling and reviewing submittals required by those corrections.
   1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
   2. Initial Submittal: Submit concurrently with start-up construction schedule. Include submittals required during the first 90 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
   3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
      a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
   4. Format: Arrange the following information in a tabular format:
      a. Scheduled date for first submittal.
      b. Specification Section number and title.
      c. Submittal category: Action, informational.
      d. Name of subcontractor.
      e. Description of the Work covered.
      f. Scheduled date for Architect's final release or approval.
      g. Scheduled dates for purchasing.
      h. Scheduled dates for installation.
      i. Activity or event number.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
   1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
      a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
      b. Digital Drawing Software Program: The Contract Drawings are available in Revit 2020 and will be released within 14 calendar days of the executed agreement. Agreements sent after 2:00pm Central Time will be considered received the next business day.
      c. Contractor shall execute a data licensing agreement as provided by the Architect.
      d. The following plot files will by furnished for each appropriate discipline:
         1) Demolition plans.
         2) Roof plans.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Submit all submittal items required for each Specification Section concurrently.
   3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
   4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
      a. Architect reserves the right to withhold action or reject a submittal on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
   1. Initial Review: Allow 21 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
   3. Resubmittal Review: Allow 15 days for review of each resubmittal.
   4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.

D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
   1. Indicate name of firm or entity that prepared each submittal on label or title block.
   2. Include the following information for processing and recording action taken:
      a. Project name.
      b. Date.
      c. Name of Architect.
      d. Name of Contractor.
      e. Name of subcontractor.
      f. Name of supplier.
      g. Name of manufacturer.
      h. Submittal number or other unique identifier, including revision identifier.
         1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
      i. Number and title of appropriate Specification Section.
      j. Drawing number and detail references, as appropriate.
      k. Location(s) where product is to be installed, as appropriate.

E. Options: Identify options requiring selection by the Architect on the transmittal and on the submittal.

F. Deviations: Identify deviations from the Contract Documents on submittals. If an alternate manufacturer other than listed is submitted after the submittal schedule is received, a substitution request must be received minimum 7 days prior to the submittal for consideration of acceptance.

G. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
   1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.

H. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will discard submittals received from sources other than Contractor.
   1. Transmittal Form: Use AIA Document G810.
   2. Transmittal Form: Provide locations on form for the following information:
      a. Project name.
      b. Date.
      c. Destination (To:).
      d. Source (From:).
      e. Names of subcontractor, manufacturer, and supplier.
      f. Category and type of submittal.
      g. Submittal purpose and description.
      h. Specification Section number and title.
      i. Indication of full or partial submittal.
      j. Drawing number and detail references, as appropriate.
      k. Transmittal number, numbered consecutively.
      l. Submittal and transmittal distribution record.
      m. Remarks.
      n. Signature of transmitter.
   3. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

K. Use for Construction: Use only final submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Action Submittals: Submit six paper copies of each submittal, unless otherwise indicated. Architect will return four copies.
   2. Informational Submittals: Submit three paper copies of each submittal, unless otherwise indicated. Architect will not return copies.
   3. Closeout Submittals and Maintenance Material Submittals: Submit three paper copies of each submittal, unless otherwise indicated. Comply with requirements specified in Division 1 Section "Closeout Procedures."
   4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
      a. Provide a notarized statement on original paper copy certificates and certifications where indicated.
      b. Submit three paper copies of each, unless otherwise indicated.
   5. Test and Inspection Reports Submittals: Submit three paper copies of each, unless otherwise indicated. Comply with requirements specified in Division 1 Section "Quality Requirements."

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:
      a. Manufacturer's catalog cuts.
      b. Manufacturer's product specifications.
      c. Standard color charts.
      d. Statement of compliance with specified referenced standards.
      e. Testing by recognized testing agency.
      f. Application of testing agency labels and seals.
      g. Notation of coordination requirements.
   4. For equipment, include the following in addition to the above, as applicable:
      a. Wiring diagrams showing factory-installed wiring.

b. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data concurrent with Samples.
6. Submit Product Data in the following format:
   a. Six paper copies of Product Data, unless otherwise indicated. Architect will return Four copies.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.
2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
3. Submit Shop Drawings in the following format:
   a. Five opaque copies of each submittal. Architect will retain One copy; remainder will be returned.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.
3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit Two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and

physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit Two sets of Samples. Architect will retain One Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project record sample.
    1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
    2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:
    a. Five paper copies of product schedule or list, unless otherwise indicated. Architect will return Four copies.

F. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation."

G. Application for Payment: Comply with requirements specified in Division 1 Section "Payment Procedures."

H. Schedule of Values: Comply with requirements specified in Division 1 Section "Payment Procedures."

I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:
1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.
4. Submit subcontract list in the following format:

a. Number of Copies: Five paper copies of subcontractor list, unless otherwise indicated. Architect will return Four copies.

J. Coordination Drawings: Comply with requirements specified in Division 1 Section "Project Management and Coordination."
1. Roof coordination drawings are specifically required for all ceiling areas at a scale of not less than 1/8" per foot. The documents shall coordinate all architectural elements associated with the construction of the new roof.

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section "Quality Requirements."

T. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

U. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

V. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

W. Maintenance Data: Comply with requirements specified in Division 1 Section "Operation and Maintenance Data."

X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
   1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit Five paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
   1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 1 Section "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

E. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

F. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SUBMITTAL PROCEDURES

SECTION 01 3600a

QUALITY CONTROL SUBMITTALS; MANUFACTURER'S INSTRUCTIONS

Description: 2021 IBC Code, Factory Mutual, and Watertightness-Warranty PERFORMANCE REQUREMENT compliance document from Roof System Manufacturer, copy provided to Owner and Contractor.

1. Owner: _____

2 Project: _____

3. Manufacturer: _____

4. Contractor _____

5. Definitions:

   a. "Substrate": Any surface the new Roof System is applied to, including existing roof (if retrofit), deck, perimeter nailers, and masonry walls.

   b. "Roof System": The complete roof including Surfacing (coatings and/or aggregates), Sheet Metal, Membranes, Adhesives, Mastics, Primers, Attachments (fasteners), and Insulations.

6. SUBSTRATE: We have reviewed existing Substrates and have provided Contractor with the preparation and attachment information necessary for Roof System application to SUBSTRATE in accordance with 2021 IBC Code, Factory Mutual, and Watertightness-Warranty requirements. Mechanical attachment to existing roof deck shall be based on uplift pressures provided on sheet S-1

7. ROOF DESIGN: We have provided the Contractor with ROOF DESIGN for Roof System compliance with Factory Mutual, IBC Code and Watertightness-Warranty requirements. Mechanical attachment to existing roof deck shall be based uplift pressures provided on sheet S-1.

8. SHEET METAL DETAILS: We have provided the Contractor with SHEET METAL DETAILS necessary for Roof System compliance with 2021 IBC Code, Factory Mutual, and Watertightness-Warranty requirements.

Sincerely,

_____ _____

Manufacturer Representative PRINT NAME Date

_____

Manufacturer Representative SIGNATURE

SECTION 014450

MANUFACTURER'S FIELD SERVICES

Description: 2021 IBC Code, Factory Mutual, and Watertightness-Warranty WORKMANSHIP compliance document from Roof System Manufacturer, copy provided to Owner and Contractor.

1. Owner: _____
2 Project: _____
3. Manufacturer: _____
4. Contractor _____
5. Definitions:

   a. "Substrate": Any surface the new Roof System is applied to, including existing roof (if retrofit), deck, perimeter nailers, and masonry walls.

   b. "Roof System": The complete roof including Surfacings (coatings and/or aggregates), Sheet Metal, Membranes, Adhesives, Mastics, Primers, Attachments (fasteners), and Insulations.

6. SUBSTRATE: I have visited the Jobsite twice weekly during construction and am satisfied that the SUBSTRATES are acceptable for Roof System application and in compliance with 2021 IBC Code, Factory Mutual, and Watertightness-Warranty requirements.

7. ROOF CONSTRUCTION: I have visited the Jobsite twice weekly during construction and am satisfied that the ROOF CONSTRUCTION is in compliance with 2021 IBC Code, Factory Mutual, and Watertightness-Warranty requirements.

8. SHEET METAL DETAILS: I have visited the Jobsite twice weekly during construction and am satisfied that the SHEET METAL DETAILS are in compliance with 2021 IBC Code, Factory Mutual, and Watertightness-Warranty requirements.

Sincerely,

_____ _____

Manufacturer Representative PRINT NAME Date

_____

Manufacturer Representative SIGNATURE

SECTION 013600b

WORKSHEET FOR QUALITY CONTROL SUBMITTALS: ROOF & SHEET METAL

Description: Code and Warranty compliance document to be filled out by Roof System Manufacturer and presented to Contractor for Submittals.

1. Owner: _____

2 Project: _____

3. Manufacturer: _____

4. Contractor: _____

5. Code Section: 1504.1, “Wind Resistance of Roofs”, ASCE-7 Calculations

   A. Project Wind Loads: Zone 1: _____ Zone 2:_____ Zone 3:_____

   Zone 4: _____ Zone 5: _____ (psf)

B. Perimeter Edge Zone Width: _____ ft._____in.

C. Perimeter Edge Pressures (psf): Outward:_____ Upward: _____

6. Code Section: 1504.3.1, "Wind Resistance of Non-Ballasted Roofs...Other Roof Systems".

A. Zone 1

1. Test Procedure (choose one, based on uplift pressures provided on Sheet S-1):

FM 4470/4450_____ UL 580_____ UL 1897_____

2. Ultimate Load: Zone 1: _____psf

3. Test-Run Number: _____

B. Zone 2

1. Test Procedure (choose one based on uplift pressures provided on Sheet S-1):

FM 4470/4450_____ UL 580_____ UL 1897_____

2. Ultimate Load: Zone 2: _____psf

3. Test-Run Number: _____

C. Zone 3

1. Test Procedure (choose one based on uplift pressures provided on Sheet S-1):

FM 4470/4450_____ UL 580_____ UL 1897_____

2. Ultimate Load: Zone 3: _____psf

3. Test-Run Number: _____

D. Zone 4

1. Test Procedure (choose one based on uplift pressures provided on Sheet S-1):

FM 4470/4450_____ UL 580_____ UL 1897_____

2. Ultimate Load: Zone 4: _____psf

3. Test-Run Number: _____

E. Zone 5

1. Test Procedure (choose one based on uplift pressures provided on Sheet S-1):

   FM 4470/4450_____ UL 580_____ UL 1897_____

2. Ultimate Load: Zone 5: _____psf

3. Test-Run Number: _____

F. Per FM or UL Testing, provide exact tested roof assembly meeting Site Pressures.

	Manufacturer	Product Name
1. Top Ply:	_____	_____
2. Middle Ply:	_____	_____
3. Base Ply:	_____	_____
4. Cover Board:	_____	_____
5. Attachment:	_____	_____
6. Taper Insul:	_____	_____
7. Attachment:	_____	_____
8. Base Insul:	_____	_____
9. Attachment:	_____	_____
10. Primer:	_____	_____
11. Deck Type:	_____	_____

7. Code Section: 1504.5, “Edge Securement for Low Slope Roofs”.

A. Coping

1. Manufacturer: _____
2. Product Name: _____
3. Testing Agency: _____
4. Maximum Ultimate Load
    a. Outward _____
    b. Upward _____
5. Coping Description
    a. Metal Type: _____
    b. Outside Fascia Length: _____
    c. Horizontal (Wall) Width: _____
    d. Inside Fascia Length: _____
    e. Coping Gauge: _____
    f. Fastener (into Coping)
        1. Fastener Type _____
        2. Fastener Length _____
        3. Fastener Spacing _____
6. Cleat Description
    a. Metal Type: _____
    b. Cleat Gauge: _____
    c. Fascia Length, Max.: _____
    d. Kickout Length, Min.: _____
    e. Fastener (into Cleat)
        1. Fastener Type _____
        2. Fastener Length _____

3. Fastener Spacing _____

B. Metal Edge

1. Manufacturer: _____
2. Product Name: _____
3. Testing Agency: _____
4. Maximum Ultimate Load
   a. Outward _____
   b. Upward _____
5. Metal Edge Description
   a. Metal Type: _____
   b. Outside Fascia Length, Max.: _____
   c. Horizontal Flange Width, Max.:_____
   d. Kickout Length, Min.: _____
   e. Return-Hem Length, Min.: _____
   f. Metal Edge Gauge: _____
   g. Fastener (into Metal Edge Flange)
      1. Fastener Type _____
      2. Fastener Length _____
      3. Fastener Spacing _____
6. Cleat Description
   a. Metal Type: _____
   b. Cleat Gauge: _____
   c. Fascia Length, Max.: _____
   d. Kickout Length, Min.: _____
   e. Fastener (into Cleat)

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

8. Code Section: 1507.10.1, "Slope". YES NO

a. Positive slope has been designed so that the roof installation will not create a ponding water warranty exclusion. _____ _____

I have reviewed Specifications and Code requirements and hereby CERTIFY that the roof design submitted in this Form complies with the performance requirements of 2021 IBC Chapter 15 and our Warranty.

Sincerely,

_____

Manufacturer Representative PRINT NAME Date

_____

Manufacturer Representative SIGNATURE

SECTION 013600c

WORKSHEET FOR QUALITY CONTROL SUBMITTALS: SHEET METAL SUBSTRATES

1. Code Section: 1504.5, "Edge Securement for Low Slope Roofs".

A. Coping

1. Coping Substrate Description

a. Substrate Type Lumber Plywood Steel Masonry

(check one) ___ ___ ___ ___

b. Coping Substrate Thickness _____

c. Substrate Anchorage

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

2. Coping Substrate Attachment to Structure/Framing

a. Structure Type Lumber Plywood Steel Masonry

(check one) ___ ___ ___ ___

b. Structure Thickness _____

c. Substrate Anchorage

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

3. Cleat Substrate Description

a. Substrate Type Lumber Plywood Steel Masonry

(check one) ___ ___ ___ ___

b. Cleat Substrate Thickness _____

c. Substrate Anchorage

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

4. Cleat Substrate Attachment to Structure/Framing

a. Structure Type Lumber Plywood Steel Masonry

(check one) ___ ___ ___ ___

b. Structure Thickness _____

c. Substrate Anchorage

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

B. Metal Edge

1. Metal Edge Substrate Description

a. Substrate Type Lumber Plywood Steel Masonry

(check one) ___ ___ ___ ___

b. Metal Edge Substrate Thickness _____

c. Substrate Anchorage

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

2. Substrate Attachment to Structure

a. Structure Type Lumber Plywood Steel Masonry

(check one) ___ ___ ___ ___

b. Structure Thickness _____

c. Substrate Anchorage

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

3. Cleat Substrate Description

a. Substrate Type Lumber Plywood Steel Masonry

(check one) ___ ___ ___ ___

b. Cleat Substrate Thickness _____

c. Substrate Anchorage

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

4. Substrate Attachment to Structure/Framing

a. Structure Type Lumber Plywood Steel Masonry

(check one) ___ ___ ___ ___

b. Structure Thickness _____

c. Substrate Anchorage

1. Fastener Type _____
2. Fastener Length _____
3. Fastener Spacing _____

I have reviewed Specifications and Code requirements and hereby CERTIFY that the roof design submitted in this Form complies with the performance requirements of 2021 IBC Chapter 15 and our Warranty.

Sincerely,

_____

Manufacturer Representative PRINT NAME Date

_____

Manufacturer Representative SIGNATURE

_____

END OF QUALITY CONTROLS SUBMITTALS

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SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to work of this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections:

1. Division 1 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
2. Divisions 2 through 16 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

D. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.

J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply

with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 ACTION SUBMITTALS

A. Shop Drawings: For integrated exterior or laboratory mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.

1. Indicate manufacturer and model number of individual components.
2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems.

1. Main wind-force resisting system or a wind-resisting component listed in the wind-force-resisting system quality assurance plan prepared by the Architect.

C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.7 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance. Installers shall have a minimum of five years experience installing the designated item or performing the work.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent. Professional Engineers shall have a minimum of five specific years experience performing the work designated.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

    a. Provide test specimens representative of proposed products and construction.
    b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
    d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
    e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
    f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at the Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.

    a. Allow seven days for initial review and each re-review of each mockup.

6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed, unless otherwise indicated.

L. Room Mockups: Construct room mockups incorporating required materials and assemblies, finished in accordance with requirements. Provide required lighting and additional lighting where required to enable Architect to evaluate quality of the Work.

1.9 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses. .

1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.10 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Conducted by a qualified special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections, and in Statement of Special Inspections attached to this Section, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, that includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 1 Section "Execution Requirements."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF QUALITY REQUIREMENTS

SECTION 01 4001

QUALITY ASSURANCE, CONTROL & DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 SUMMARY

A. This section includes administrative and procedural requirements for quality assurance and quality control.

PART 2 - PRODUCTS

2.1 GENERAL

A. Control System: The Contractor shall establish and maintain a system for documenting, monitoring, inspecting, verifying, and testing of the work and that of his subcontractors to ensure that all applicable requirements of the contract documents are met. The Contractor shall be diligent to ensure that the quality of workmanship is satisfactory, that the installation meets all manufacturer requirements, that dimensional requirements are met, that defective materials are not used, and that all required protection and control and laboratory testing procedures are affected. Where specific testing procedures are not stipulated, the Contractor shall establish and conduct a test procedure to ensure adherence to specified quality.

B. Chain of Control: The Contractor shall plan, coordinate, execute, and examine the work to ensure the complete, workmanlike, and warrantable installation of all materials in a system or element of the construction.

1. The Contractor shall plan, coordinate, execute, and examine the work to ensure that all underlying, substrate, or contiguous work is installed as required to meet the tolerances and requirements for the correct installation of subsequent work.

a. It is the responsibility of the Contractor to advise the Architect no later than the submittal phase of any discrepancies in the

requirements or tolerances of materials or components in a system or element of the construction.

PART 3 - EXECUTION

3.1 GENERAL PROCEDURES:

A. Documentation: The documentation shall be by specification section or by system or element of the construction. The documentation shall be formatted in a comprehensive and collated manner to ensure ease of use and reference. A Table of Contents shall be provided. The Contractor's system shall include, but is not limited to the following:

1. Pre-Installation Conference Meeting Minutes

a. Review of b through g below
b. Inspection and Testing requirements
c. Correct environmental conditions for execution of the work and protection of the completed installation.
d. Schedule including required inspections
e. Requirements and tolerances of underlying, substrate, or contiguous work
f. Review of requirements to ensure an enforceable warranty
* Manufacturers should be present whenever possible *
g. Specifications
h. Submittals, Product Data, and Shop Drawings
i. Test Results
j. Manufacturer's Recommendations, Requirements, and Instructions
k. Packaging labels from Materials where possible
l. Periodic, Dated Photos of the work being performed and any other documentation that pertains to the warranty of the material or structure.
m. Samples of the material when reasonable

B. Pre-Work Quality Control Meeting: The Contractor shall set up a meeting with the Awarding Authority, Architect, and Program Manager to review the contractor's proposed QA/QC system and requirements for compliance.

C. Submittal of QAQC Program:

1. The Contractor shall submit for approval to the Architect their program format ten (10) days from Notice to Proceed.

2. Once work has begun, the QAQC manual must be kept up-to-date and approved by the Architect or Project Manager prior to the current Pay Application being approved.

D. Inspections: The Contractor shall make an initial inspection of each phase of work as soon as a representative portion has been completed, and the Contractor shall make follow-up inspections as required, to ensure that an acceptable quality of work is established and maintained.

1. The Contractor shall perform a pre-final inspection, prepare a punch list, and work off all items prior to Architect/Engineer and/or Owner inspection.

2. Contractor shall provide copy of completed report, certifying its completion to the Architect prior to the Architect/Engineer and/or Owner beginning their inspections.

3. The Contractor shall coordinate and plan inspections by the Architect/Engineer and/or Owner in a timely manner to ensure that all parties can be scheduled so as not to impede the flow of the work.

E. Closeout: The documents generated through this process are to be turned in as part of the closeout documents.

1. Provide a list of following for all equipment including but not limited to the following:

   a. Model Number
   b. Serial Number
   c. Description
   d. Contract Document Reference

2. Filter and Belt list for each air handler

END OF SECTION 01 4001

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SECTION 01 4200

REFERENCES

PART 1 - GENERAL

1.1 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.

1.2 DEFINITIONS

A. GENERAL: BASIC CONTRACT DEFINITIONS ARE INCLUDED IN THE CONDITIONS OF THE CONTRACT.

B. "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.

C. "DIRECTED": A COMMAND OR INSTRUCTION BY ARCHITECT. OTHER TERMS INCLUDING "REQUESTED," "AUTHORIZED," "SELECTED," "REQUIRED," AND "PERMITTED" HAVE THE SAME MEANING AS "DIRECTED."

D. "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."

E. "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.

F. "FURNISH": SUPPLY AND DELIVER TO PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS.

G. "INSTALL": UNLOAD, TEMPORARILY STORE, UNPACK, ASSEMBLE, ERECT, PLACE, ANCHOR, APPLY, WORK TO DIMENSION, FINISH, CURE, PROTECT, CLEAN, AND SIMILAR OPERATIONS AT PROJECT SITE.

H. "PROVIDE": FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.

I. "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.

1.3 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.

C. COPIES OF STANDARDS: EACH ENTITY ENGAGED IN CONSTRUCTION ON PROJECT SHOULD 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.

1.4 ABBREVIATIONS AND ACRONYMS

A. 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'S "ENCYCLOPEDIA OF ASSOCIATIONS: NATIONAL ORGANIZATIONS OF THE U.S." OR IN COLUMBIA BOOKS' "NATIONAL TRADE & PROFESSIONAL ASSOCIATIONS OF THE UNITED STATES."

B. INDUSTRY ORGANIZATIONS: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE ENTITIES IN THE FOLLOWING LIST. THIS INFORMATION IS SUBJECT TO CHANGE AND IS BELIEVED TO BE ACCURATE AS OF THE DATE OF THE CONTRACT DOCUMENTS.
   1. AA – ALUMINUM ASSOCIATION (THE); WWW.ALUMINUM.ORG.
   2. AABC - ASSOCIATED AIR BALANCE COUNCIL; WWW.AABC.COM.
   3. AAMA - AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION; WWW.AAMANET.ORG.
   4. AAN – AMERICAN NURSERY AND LANDSCAPE ASSOCIATION; WWW.ANLA.ORG.
   5. AASHTO - AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS; WWW.TRANSPORTATION.ORG.

6. AATCC - AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS; WWW.AATCC.ORG.
7. ABAA – AIR BARRIER ASSOCIATION OF AMERICA; WWW.AIRBARRIER.ORG.
8. ABMA - AMERICAN BEARING MANUFACTURERS ASSOCIATION; WWW.AMERICANBEARINGS.ORG.
9. ACI - AMERICAN CONCRETE INSTITUTE; (FORMERLY: ACI INTERNATIONAL); WWW.CONCRETE.ORG.
10. ACIL – AMERICAN COUNCIL OF INDEPENDENT LABORATORIES; WWW.ACIL.ORG.
11. ACPA - AMERICAN CONCRETE PIPE ASSOCIATION; WWW.CONCRETE-PIPE.ORG.
12. ADC – AIR DIFFUSION COUNCIL; WWW.FLEXIBLEDUCT.ORG.
13. AEIC - ASSOCIATION OF EDISON ILLUMINATING COMPANIES, INC. (THE); WWW.AEIC.ORG.
14. AF&PA - AMERICAN FOREST & PAPER ASSOCIATION; WWW.AFANDPA.ORG.
15. AGA - AMERICAN GAS ASSOCIATION; WWW.AGA.ORG.
16. AHAM - ASSOCIATION OF HOME APPLIANCE MANUFACTURERS; WWW.AHAM.ORG.
17. AHRI - AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE (THE); WWW.AHRINET.ORG.
18. AI - ASPHALT INSTITUTE; WWW.ASPHALTINSTITUTE.ORG.
19. AIA - AMERICAN INSTITUTE OF ARCHITECTS (THE); WWW.AIA.ORG.
20. AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION; WWW.AISC.ORG.
21. AISI - AMERICAN IRON AND STEEL INSTITUTE; WWW.STEEL.ORG.
22. AITC - AMERICAN INSTITUTE OF TIMBER CONSTRUCTION; WWW.AITC-GLULAM.ORG.
23. ALSC – AMERICAN LUMBER STANDARD COMMITTEE; WWW.ALSC.ORG.
24. AMCA - AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.; WWW.AMCA.ORG.
25. ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE; WWW.ANSI.ORG.
26. AOSA - ASSOCIATION OF OFFICIAL SEED ANALYSTS, INC.; WWW.AOSASEED.COM.
27. APA - APA - THE ENGINEERED WOOD ASSOCIATION; WWW.APAWOOD.ORG.
28. APA - ARCHITECTURAL PRECAST ASSOCIATION; WWW.ARCHPRECAST.ORG.
29. API - AMERICAN PETROLEUM INSTITUTE; WWW.API.ORG.
30. ARI - AIR-CONDITIONING & REFRIGERATION INSTITUTE; (SEE AHRI).
31. ARI - AMERICAN REFRIGERATION INSTITUTE; (SEE AHRI).
32. ARMA - ASPHALT ROOFING MANUFACTURERS ASSOCIATION; WWW.ASPHALTROOFING.ORG.
33. ASC – ADHESIVE AND SEALANT COUNCIL; WWW.ASCOUNCIL.ORG.
34. ASCE - AMERICAN SOCIETY OF CIVIL ENGINEERS; WWW.ASCE.ORG.
35. ASCE/SEI - AMERICAN SOCIETY OF CIVIL ENGINEERS/STRUCTURAL ENGINEERING INSTITUTE; (SEE ASCE).
36. ASHRAE - AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS; WWW.ASHRAE.ORG.
37. ASME - ASME INTERNATIONAL; (AMERICAN SOCIETY OF MECHANICAL ENGINEERS); WWW.ASME.ORG.

38. ASPE – AMERICAN SOCIETY FOR PLUMBING ENGINEERS; WWW.ASPE.ORG.
39. ASSE - AMERICAN SOCIETY OF SAFETY ENGINEERS (THE); WWW.ASSE.ORG.
40. ASSE - AMERICAN SOCIETY OF SANITARY ENGINEERING; WWW.ASSE-PLUMBING.ORG.
41. ASTM - ASTM INTERNATIONAL; (AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL); WWW.ASTM.ORG.
42. ATIS - ALLIANCE FOR TELECOMMUNICATIONS INDUSTRY SOLUTIONS; WWW.ATIS.ORG.
43. AWCI – ASSOCIATION OF THE WALL AND CEILING INDUSTRY; WWW.AWCI.ORG.
44. AWEA - AMERICAN WIND ENERGY ASSOCIATION; WWW.AWEA.ORG.
45. AWI - ARCHITECTURAL WOODWORK INSTITUTE; WWW.AWINET.ORG.
46. AWMAC - ARCHITECTURAL WOODWORK MANUFACTURERS ASSOCIATION OF CANADA; WWW.AWMAC.COM.
47. AWPA - AMERICAN WOOD PROTECTION ASSOCIATION; (FORMERLY: AMERICAN WOOD-PRESERVERS' ASSOCIATION); WWW.AWPA.COM.
48. AWS - AMERICAN WELDING SOCIETY; WWW.AWS.ORG.
49. AWWA - AMERICAN WATER WORKS ASSOCIATION; WWW.AWWA.ORG.
50. BHMA - BUILDERS HARDWARE MANUFACTURERS ASSOCIATION; WWW.BUILDERSHARDWARE.COM.
51. BIA - BRICK INDUSTRY ASSOCIATION (THE); WWW.GOBRICK.COM.
52. BICSI - BICSI, INC.; WWW.BICSI.ORG.
53. BIFMA - BIFMA INTERNATIONAL; (BUSINESS AND INSTITUTIONAL FURNITURE MANUFACTURER'S ASSOCIATION); WWW.BIFMA.COM.
54. BISSC - BAKING INDUSTRY SANITATION STANDARDS COMMITTEE; WWW.BISSC.ORG.
55. BOCA - BOCA; (BUILDING OFFICIALS AND CODE ADMINISTRATORS INTERNATIONAL INC.); (SEE ICC).
56. CCC – CARPET CUSHION COUNCIL; WWW.CARPETCUSHION.ORG.
57. CDA - COPPER DEVELOPMENT ASSOCIATION; WWW.COPPER.ORG.
58. CE – CORPS OF ENGINEERS (US DEPARTMENT OF THE ARMY); WWW.USACE.ARMY.MIL.
59. CEA - CANADIAN ELECTRICITY ASSOCIATION; WWW.ELECTRICITY.CA.
60. CEA - CONSUMER ELECTRONICS ASSOCIATION; WWW.CE.ORG.
61. CFFA - CHEMICAL FABRICS & FILM ASSOCIATION, INC.; WW.CHEMICALFABRICSANDFILM.COM.
62. CFSEI - COLD-FORMED STEEL ENGINEERS INSTITUTE; WWW.CFSEI.ORG.
63. CGA - COMPRESSED GAS ASSOCIATION; WWW.CGANET.COM.
64. CIMA - CELLULOSE INSULATION MANUFACTURERS ASSOCIATION; WWW.CELLULOSE.ORG.
65. CISCA - CEILINGS & INTERIOR SYSTEMS CONSTRUCTION ASSOCIATION; WWW.CISCA.ORG.
66. CISPI - CAST IRON SOIL PIPE INSTITUTE; WWW.CISPI.ORG.
67. CLFMI - CHAIN LINK FENCE MANUFACTURERS INSTITUTE; WWW.CHAINLINKINFO.ORG.
68. CPA - COMPOSITE PANEL ASSOCIATION; WWW.PBMDF.COM.

69. CRI - CARPET AND RUG INSTITUTE (THE); WWW.CARPET-RUG.ORG.
70. CRRC - COOL ROOF RATING COUNCIL; WWW.COOLROOFS.ORG.
71. CRSI - CONCRETE REINFORCING STEEL INSTITUTE; WWW.CRSI.ORG.
72. CSA - CANADIAN STANDARDS ASSOCIATION; WWW.CSA.CA.
73. CSA - CSA INTERNATIONAL; (FORMERLY: IAS - INTERNATIONAL APPROVAL SERVICES); WWW.CSA-INTERNATIONAL.ORG.
74. CSI - CONSTRUCTION SPECIFICATIONS INSTITUTE (THE); WWW.CSINET.ORG.
75. CSSB - CEDAR SHAKE & SHINGLE BUREAU; WWW.CEDARBUREAU.ORG.
76. CTI - COOLING TECHNOLOGY INSTITUTE; (FORMERLY: COOLING TOWER INSTITUTE); WWW.CTI.ORG.
77. CWC - COMPOSITE WOOD COUNCIL; (SEE CPA).
78. DASMA - DOOR AND ACCESS SYSTEMS MANUFACTURERS ASSOCIATION; WWW.DASMA.COM.
79. DHI - DOOR AND HARDWARE INSTITUTE; WWW.DHI.ORG.
80. ECA - ELECTRONIC COMPONENTS ASSOCIATION; WWW.EC-CENTRAL.ORG.
81. ECAMA - ELECTRONIC COMPONENTS ASSEMBLIES & MATERIALS ASSOCIATION; (SEE ECA).
82. EIA - ELECTRONIC INDUSTRIES ALLIANCE; (SEE TIA).
83. EIMA - EIFS INDUSTRY MEMBERS ASSOCIATION; WWW.EIMA.COM.
84. EJCDC – ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE' WWW.EJCDC.ORG.
85. EJMA - EXPANSION JOINT MANUFACTURERS ASSOCIATION, INC.; WWW.EJMA.ORG.
86. ESD - ESD ASSOCIATION; (ELECTROSTATIC DISCHARGE ASSOCIATION); WWW.ESDA.ORG.
87. ESTA - ENTERTAINMENT SERVICES AND TECHNOLOGY ASSOCIATION; (SEE PLASA).
88. ETL SEMCO – INTERTEK ETL SEMCO (FORMERLY: ITS-INTERTEK TESTING SERVICE NA); WWW.INTERTEK-ETLSEMKO.COM.
89. EVO - EFFICIENCY VALUATION ORGANIZATION; WWW.EVO-WORLD.ORG.
90. FAA – FEDERAL AVIATION ADMINISTRATION; WWW.FAA.GOV.
91. FCC – FEDERAL COMMUNICATIONS COMMISSION; WWW.FCC.GOV.
92. FCIA – FIRESTOPPING CONTRACTORS INTERNATIONAL ORGANIZATION; WWW.FCIA.ORG.
93. FHA – FEDERAL HOUSING ADMINISTRATION; WWW.HUD.GOV/FHA.
94. FIBA - FEDERATION INTERNATIONALE DE BASKETBALL; (THE INTERNATIONAL BASKETBALL FEDERATION); WWW.FIBA.COM.
95. FIVB - FEDERATION INTERNATIONALE DE VOLLEYBALL; (THE INTERNATIONAL VOLLEYBALL FEDERATION); WWW.FIVB.ORG.
96. FM - FM GLOBAL; (FORMERLY: FMG - FM GLOBAL); WWW.FMGLOBAL.COM.
97. FRSA - FLORIDA ROOFING, SHEET METAL & AIR CONDITIONING CONTRACTORS ASSOCIATION, INC.; WWW.FLORIDAROOF.COM.
98. FSA - FLUID SEALING ASSOCIATION; WWW.FLUIDSEALING.COM.
99. FSC - FOREST STEWARDSHIP COUNCIL U.S.; WWW.FSCUS.ORG.
100. FTI – FACING TILE INSTITUTE; WWW
101. GA - GYPSUM ASSOCIATION; WWW.GYPSUM.ORG.

102. GANA - GLASS ASSOCIATION OF NORTH AMERICA; WWW.GLASSWEBSITE.COM.
103. GS - GREEN SEAL; WWW.GREENSEAL.ORG.
104. GSI – GEOSYNTHETIC INSTITUTE; WWW.GEOSYNTHETIC-INSTITUTE.ORG.
105. HI - HYDRAULIC INSTITUTE; WWW.PUMPS.ORG.
106. HI/GAMA - HYDRONICS INSTITUTE/GAS APPLIANCE MANUFACTURERS ASSOCIATION; (SEE AHRI).
107. HMA – HARDWOOD MANUFACTURERS ASSOCIATION; WWWLHARDWOOD.ORG.
108. HMMA - HOLLOW METAL MANUFACTURERS ASSOCIATION; (SEE NAAMM).
109. HPVA - HARDWOOD PLYWOOD & VENEER ASSOCIATION; WWW.HPVA.ORG.
110. HPW - H. P. WHITE LABORATORY, INC.; WWW.HPWHITE.COM.
111. IAPSC - INTERNATIONAL ASSOCIATION OF PROFESSIONAL SECURITY CONSULTANTS; WWW.IAPSC.ORG.
112. IAS - INTERNATIONAL APPROVAL SERVICES; (SEE CSA).
113. ICBO - INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS; (SEE ICC).
114. ICC - INTERNATIONAL CODE COUNCIL; WWW.ICCSAFE.ORG.
115. ICEA - INSULATED CABLE ENGINEERS ASSOCIATION, INC.; WWW.ICEA.NET.
116. ICPA - INTERNATIONAL CAST POLYMER ALLIANCE; WWW.ICPA-HQ.ORG.
117. ICRI - INTERNATIONAL CONCRETE REPAIR INSTITUTE, INC.; WWW.ICRI.ORG.
118. ICPA – INTERNATIONAL CAST POLYMER ASSOCIATION; WWW.ICPA-HQ.ORG.
119. IEC - INTERNATIONAL ELECTROTECHNICAL COMMISSION; WWW.IEC.CH.
120. IEEE - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC. (THE); WWW.IEEE.ORG.
121. IES - ILLUMINATING ENGINEERING SOCIETY; (FORMERLY: ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA); WWW.IES.ORG.
122. IESNA - ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA; (SEE IES).
123. IEST - INSTITUTE OF ENVIRONMENTAL SCIENCES AND TECHNOLOGY; WWW.IEST.ORG.
124. IGMA - INSULATING GLASS MANUFACTURERS ALLIANCE; WWW.IGMAONLINE.ORG.
125. IGSHPA - INTERNATIONAL GROUND SOURCE HEAT PUMP ASSOCIATION; WWW.IGSHPA.OKSTATE.EDU.
126. ILI - INDIANA LIMESTONE INSTITUTE OF AMERICA, INC.; WWW.ILIAI.COM.
127. ISA - INTERNATIONAL SOCIETY OF AUTOMATION (THE); (FORMERLY: INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY); WWW.ISA.ORG.
128. ISAS - INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (THE); (SEE ISA).
129. ISFA - INTERNATIONAL SURFACE FABRICATORS ASSOCIATION; (FORMERLY: INTERNATIONAL SOLID SURFACE FABRICATORS ASSOCIATION); WWW.ISFANOW.ORG.
130. ISO - INTERNATIONAL ORGANIZATION FOR STANDARDIZATION; WWW.ISO.ORG.
131. ISSFA - INTERNATIONAL SOLID SURFACE FABRICATORS ASSOCIATION; (SEE ISFA).

132. ITS - (NOW: ETL SEMCO; INTERTEK TESTING SERVICE NA); WWW.INTERTEK.COM.
133. ITU - INTERNATIONAL TELECOMMUNICATION UNION; WWW.ITU.INT/HOME.
134. JOINT COMMISSION – (FORMERLY JCAHO, JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANIZATIONS); WWW.JOINTCOMMISSION.ORG.
135. KCMA - KITCHEN CABINET MANUFACTURERS ASSOCIATION; WWW.KCMA.ORG.
136. LGSEA – LIGHT GAUGE STEEL ENGINEERS ASSOCIATION; WWW.LGSEA.COM.
137. LMA - LAMINATING MATERIALS ASSOCIATION; (SEE CPA).
138. LPI - LIGHTNING PROTECTION INSTITUTE; WWW.LIGHTNING.ORG.
139. MBMA - METAL BUILDING MANUFACTURERS ASSOCIATION; WWW.MBMA.COM.
140. MCA - METAL CONSTRUCTION ASSOCIATION; WWW.METALCONSTRUCTION.ORG.
141. MCAA – MECHANICAL CONTRACTORS ASSOCIATION OF AMERICA; WWW.MCAA.ORG.
142. MFMA - MAPLE FLOORING MANUFACTURERS ASSOCIATION, INC.; WWW.MAPLEFLOOR.ORG.
143. MFMA - METAL FRAMING MANUFACTURERS ASSOCIATION, INC.; WWW.METALFRAMINGMFG.ORG.
144. MHIA - MATERIAL HANDLING INDUSTRY OF AMERICA; WWW.MHIA.ORG.
145. MIA - MARBLE INSTITUTE OF AMERICA; WWW.MARBLE-INSTITUTE.COM.
146. MMPA - MOULDING & MILLWORK PRODUCERS ASSOCIATION; (FORMERLY: WOOD MOULDING & MILLWORK PRODUCERS ASSOCIATION); WWW.WMMPA.COM.
147. MPI - MASTER PAINTERS INSTITUTE; WWW.PAINTINFO.COM.
148. MSS - MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY INC.; WWW.MSS-HQ.ORG.
149. NAAMM - NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS; WWW.NAAMM.ORG.
150. NACE - NACE INTERNATIONAL; (NATIONAL ASSOCIATION OF CORROSION ENGINEERS INTERNATIONAL); WWW.NACE.ORG.
151. NADCA - NATIONAL AIR DUCT CLEANERS ASSOCIATION; WWW.NADCA.COM.
152. NAIMA - NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION; WWW.NAIMA.ORG.
153. NAPA – NATIONAL ASPHALT PAVEMENT ASSOCIATION; WWW.HOTMIX.ORG.
154. NBGQA - NATIONAL BUILDING GRANITE QUARRIES ASSOCIATION, INC.; WWW.NBGQA.COM.
155. NCAA - NATIONAL COLLEGIATE ATHLETIC ASSOCIATION (THE); WWW.NCAA.ORG.
156. NCMA - NATIONAL CONCRETE MASONRY ASSOCIATION; WWW.NCMA.ORG.
157. NCTA – NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION; WWW.NCTA.COM.
158. NEBB - NATIONAL ENVIRONMENTAL BALANCING BUREAU; WWW.NEBB.ORG.
159. NEC – NATIONAL ELECTRICAL CODE; WWW.NFPA.ORG.

160. NECA - NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION; WWW.NECANET.ORG.
161. NEII – NATIONAL ELEVATOR INDUSTRY, INC.; WWW.NEII.ORG.
162. NELMA - NORTHEASTERN LUMBER MANUFACTURERS ASSOCIATION; WWW.NELMA.ORG.
163. NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION; WWW.NEMA.ORG.
164. NETA - INTERNATIONAL ELECTRICAL TESTING ASSOCIATION; WWW.NETAWORLD.ORG.
165. NFHS - NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS; WWW.NFHS.ORG.
166. NFPA - NFPA; (NATIONAL FIRE PROTECTION ASSOCIATION); WWW.NFPA.ORG.
167. NFRC - NATIONAL FENESTRATION RATING COUNCIL; WWW.NFRC.ORG.
168. NGA – NATIONAL GLASS ASSOCIATION; WWW.GLASS.ORG.
169. NHLA - NATIONAL HARDWOOD LUMBER ASSOCIATION; WWW.NHLA.COM.
170. NLGA - NATIONAL LUMBER GRADES AUTHORITY; WWW.NLGA.ORG.
171. NOFMA - NATIONAL OAK FLOORING MANUFACTURERS ASSOCIATION; (SEE NWFA).
172. NOMMA - NATIONAL ORNAMENTAL & MISCELLANEOUS METALS ASSOCIATION; WWW.NOMMA.ORG.
173. NRCA - NATIONAL ROOFING CONTRACTORS ASSOCIATION; WWW.NRCA.NET.
174. NRMCA - NATIONAL READY MIXED CONCRETE ASSOCIATION; WWW.NRMCA.ORG.
175. NSF - NSF INTERNATIONAL; (NATIONAL SANITATION FOUNDATION INTERNATIONAL); WWW.NSF.ORG.
176. NSPE - NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS; WWW.NSPE.ORG.
177. NSSGA - NATIONAL STONE, SAND & GRAVEL ASSOCIATION; WWW.NSSGA.ORG.
178. NTMA - NATIONAL TERRAZZO & MOSAIC ASSOCIATION, INC. (THE); WWW.NTMA.COM.
179. NWFA - NATIONAL WOOD FLOORING ASSOCIATION; WWW.NWFA.ORG.
180. NWWDA – NATIONAL WOOD WINDOW AND DOOR ASSOCIATION; WWW.NWWDA.ORG.
181. PCA – PORTLAND CEMENT ASSOCIATION; WWW.PORTCEMENT.ORG.
182. PCI - PRECAST/PRESTRESSED CONCRETE INSTITUTE; WWW.PCI.ORG.
183. PDI - PLUMBING & DRAINAGE INSTITUTE; WWW.PDIONLINE.ORG.
184. PEI – PORCELAIN ENAMEL INSTITUTE; WWW.PORCELAINENAMEL.COM.
185. PGI – PVC GEOMEMBRANE INSTITUTE; WWW.PVCGEOMEMBRANE.COM.
186. PLASA - PLASA; (FORMERLY: ESTA - ENTERTAINMENT SERVICES AND TECHNOLOGY ASSOCIATION); WWW.PLASA.ORG.
187. PTI – POST-TENSIONING INSTITUTE; WWW.POST-TENSIONING.ORG.
188. RCSC - RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS; WWW.BOLTCOUNCIL.ORG.
189. RFCI - RESILIENT FLOOR COVERING INSTITUTE; WWW.RFCI.COM.
190. RIS - REDWOOD INSPECTION SERVICE; WWW.REDWOODINSPECTION.COM.

191. SAE - SAE INTERNATIONAL; (SOCIETY OF AUTOMOTIVE ENGINEERS); WWW.SAE.ORG.
192. SCAQMD – SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT; WWW.AQMD.COM.
193. SCTE - SOCIETY OF CABLE TELECOMMUNICATIONS ENGINEERS; WWW.SCTE.ORG.
194. SDI - STEEL DECK INSTITUTE; WWW.SDI.ORG.
195. SDI - STEEL DOOR INSTITUTE; WWW.STEELDOOR.ORG.
196. SEFA - SCIENTIFIC EQUIPMENT AND FURNITURE ASSOCIATION; WWW.SEFALABS.COM.
197. SEI/ASCE - STRUCTURAL ENGINEERING INSTITUTE/AMERICAN SOCIETY OF CIVIL ENGINEERS; (SEE ASCE).
198. SIA - SECURITY INDUSTRY ASSOCIATION; WWW.SIAONLINE.ORG.
199. SJI - STEEL JOIST INSTITUTE; WWW.STEELJOIST.ORG.
200. SMA - SCREEN MANUFACTURERS ASSOCIATION; WWW.SMAINFO.ORG.
201. SMACNA - SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION; WWW.SMACNA.ORG.
202. SMPTE - SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS; WWW.SMPTE.ORG.
203. SPFA - SPRAY POLYURETHANE FOAM ALLIANCE; WWW.SPRAYFOAM.ORG.
204. SPIB - SOUTHERN PINE INSPECTION BUREAU; WWW.SPIB.ORG.
205. SPRI - SINGLE PLY ROOFING INDUSTRY; WWW.SPRI.ORG.
206. SRCC - SOLAR RATING AND CERTIFICATION CORPORATION; WWW.SOLAR-RATING.ORG.
207. SSINA - SPECIALTY STEEL INDUSTRY OF NORTH AMERICA; WWW.SSINA.COM.
208. SSPC – STEEL STRUCTURES PAINTING COUNCIL; WWW.SSPC.ORG.
209. STI - STEEL TANK INSTITUTE; WWW.STEELTANK.COM.
210. SWI - STEEL WINDOW INSTITUTE; WWW.STEELWINDOWS.COM.
211. SWPA - SUBMERSIBLE WASTEWATER PUMP ASSOCIATION; WWW.SWPA.ORG.
212. TCA - TILT-UP CONCRETE ASSOCIATION; WWW.TILT-UP.ORG.
213. TCNA - TILE COUNCIL OF NORTH AMERICA, INC.; (FORMERLY: TCA); WWW.TILEUSA.COM.
214. TEMA - TUBULAR EXCHANGER MANUFACTURERS ASSOCIATION, INC.; WWW.TEMA.ORG.
215. TIA - TELECOMMUNICATIONS INDUSTRY ASSOCIATION; (FORMERLY: TIA/EIA - TELECOMMUNICATIONS INDUSTRY ASSOCIATION/ELECTRONIC INDUSTRIES ALLIANCE); WWW.TIAONLINE.ORG.
216. TIA/EIA - TELECOMMUNICATIONS INDUSTRY ASSOCIATION/ELECTRONIC INDUSTRIES ALLIANCE; (SEE TIA).
217. TMS - THE MASONRY SOCIETY; WWW.MASONRYSOCIETY.ORG.
218. TPI - TRUSS PLATE INSTITUTE; WWW.TPINST.ORG.
219. TPI - TURFGRASS PRODUCERS INTERNATIONAL; WWW.TURFGRASSSOD.ORG.
220. TRI - TILE ROOFING INSTITUTE; WWW.TILEROOFING.ORG.
221. UBC - UNIFORM BUILDING CODE; (SEE ICC).
222. UL - UNDERWRITERS LABORATORIES INC.; WWW.UL.COM.
223. UNI - UNI-BELL PVC PIPE ASSOCIATION; WWW.UNI-BELL.ORG.

224. USAV - USA VOLLEYBALL; WWW.USAVOLLEYBALL.ORG.
225. USGBC - U.S. GREEN BUILDING COUNCIL; WWW.USGBC.ORG.
226. USITT - UNITED STATES INSTITUTE FOR THEATRE TECHNOLOGY, INC.; WWW.USITT.ORG.
227. WASTEC - WASTE EQUIPMENT TECHNOLOGY ASSOCIATION; WWW.WASTEC.ORG.
228. WCLIB - WEST COAST LUMBER INSPECTION BUREAU; WWW.WCLIB.ORG.
229. WCMA - WINDOW COVERING MANUFACTURERS ASSOCIATION; WWW.WCMANET.ORG.
230. WDMA - WINDOW & DOOR MANUFACTURERS ASSOCIATION; WWW.WDMA.COM.
231. WI - WOODWORK INSTITUTE; (FORMERLY: WIC - WOODWORK INSTITUTE OF CALIFORNIA); WWW.WICNET.ORG.
232. WMMPA - WOOD MOULDING & MILLWORK PRODUCERS ASSOCIATION; (SEE MMPA).
233. WRI – WIRE REINFORCEMENT INSTITUTE; WWW.WIREREINFORCEMENTINSTITUTE.ORG.
234. WSRCA - WESTERN STATES ROOFING CONTRACTORS ASSOCIATION; WWW.WSRCA.COM.
235. WWPA - WESTERN WOOD PRODUCTS ASSOCIATION; WWW.WWPA.ORG.

C. CODE AGENCIES: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE ENTITIES IN THE FOLLOWING LIST. THIS INFORMATION IS BELIEVED TO BE ACCURATE AS OF THE DATE OF THE CONTRACT DOCUMENTS.
1. DIN - DEUTSCHES INSTITUTE FUR NORMUNG E.V.; WWW.DIN.DE.
2. IAPMO - INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS; WWW.IAPMO.ORG.
3. ICC - INTERNATIONAL CODE COUNCIL; WWW.ICCSAFE.ORG.
4. ICC-ES - ICC EVALUATION SERVICE, LLC; WWW.ICC-ES.ORG.

D. FEDERAL GOVERNMENT AGENCIES: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE ENTITIES IN THE FOLLOWING LIST. INFORMATION IS SUBJECT TO CHANGE AND IS UP-TO-DATE AS OF THE DATE OF THE CONTRACT DOCUMENTS.
1. COE - ARMY CORPS OF ENGINEERS; WWW.USACE.ARMY.MIL.
2. CPSC - CONSUMER PRODUCT SAFETY COMMISSION; WWW.CPSC.GOV.
3. DOC - DEPARTMENT OF COMMERCE; NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY; WWW.NIST.GOV.
4. DOD - DEPARTMENT OF DEFENSE; HTTP://DODSSP.DAPS.DLA.MIL.
5. DOE - DEPARTMENT OF ENERGY; WWW.ENERGY.GOV.
6. EPA - ENVIRONMENTAL PROTECTION AGENCY; WWW.EPA.GOV.
7. FAA - FEDERAL AVIATION ADMINISTRATION; WWW.FAA.GOV.
8. FCC – FEDERAL COMMUNICATIONS COMMISSION; WWW.FCC.GOV.
9. FDA – FOOD AND DRUG ADMINISTRATION; WWW.FDA.GOV.
10. FEMA – FEDERAL EMERGENCY MANAGEMENT AGENCY; WWW.FEMA.GOV.

11. FG - FEDERAL GOVERNMENT PUBLICATIONS; WWW.GPO.GOV.
12. GSA - GENERAL SERVICES ADMINISTRATION; WWW.GSA.GOV.
13. HUD - DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT; WWW.HUD.GOV.
14. LBL - LAWRENCE BERKELEY NATIONAL LABORATORY; ENVIRONMENTAL ENERGY TECHNOLOGIES DIVISION; HTTP://EETD.LBL.GOV.
15. NIST – NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY; WWW.NIST.GOV.
16. OSHA - OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION; WWW.OSHA.GOV.
17. SD - DEPARTMENT OF STATE; WWW.STATE.GOV.
18. TRB - TRANSPORTATION RESEARCH BOARD; NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM; WWW.TRB.ORG.
19. USDA - DEPARTMENT OF AGRICULTURE; AGRICULTURE RESEARCH SERVICE; U.S. SALINITY LABORATORY; WWW.ARS.USDA.GOV.
20. USDA - DEPARTMENT OF AGRICULTURE; RURAL UTILITIES SERVICE; WWW.USDA.GOV.
21. USDJ - DEPARTMENT OF JUSTICE; OFFICE OF JUSTICE PROGRAMS; NATIONAL INSTITUTE OF JUSTICE; WWW.OJP.USDOJ.GOV.
22. USP - U.S. PHARMACOPEIA; WWW.USP.ORG.
23. USPS - UNITED STATES POSTAL SERVICE; WWW.USPS.COM.

E. 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 FOLLOWING LIST. THIS INFORMATION IS SUBJECT TO CHANGE AND IS BELIEVED TO BE ACCURATE AS OF THE DATE OF THE CONTRACT DOCUMENTS.
   1. ADAAG – AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES; WWW.ACCESS-BOARD.GOV.
   2. CFR - CODE OF FEDERAL REGULATIONS; AVAILABLE FROM GOVERNMENT PRINTING OFFICE; WWW.GPO.GOV/FDSYS.
   3. DOD - DEPARTMENT OF DEFENSE; MILITARY SPECIFICATIONS AND STANDARDS; AVAILABLE FROM DEPARTMENT OF DEFENSE SINGLE STOCK POINT; HTTP://DODSSP.DAPS.DLA.MIL.
   4. DSCC - DEFENSE SUPPLY CENTER COLUMBUS; (SEE FS).
   5. FED-STD - FEDERAL STANDARD; (SEE FS).
   6. FS - FEDERAL SPECIFICATION; AVAILABLE FROM DEPARTMENT OF DEFENSE SINGLE STOCK POINT; HTTP://DODSSP.DAPS.DLA.MIL.
      A. AVAILABLE FROM DEFENSE STANDARDIZATION PROGRAM; WWW.DSP.DLA.MIL.
      B. AVAILABLE FROM GENERAL SERVICES ADMINISTRATION; WWW.GSA.GOV.
      C. AVAILABLE FROM NATIONAL INSTITUTE OF BUILDING SCIENCES/WHOLE BUILDING DESIGN GUIDE; WWW.WBDG.ORG/CCB.
   7. MILSPEC - MILITARY SPECIFICATION AND STANDARDS; (SEE DOD).

8. UFAS – UNIFORM FEDERAL ACCESSIBILITY STANDARDS; WWW.ACCESS-BOARD.GOV.
9. USAB - UNITED STATES ACCESS BOARD; WWW.ACCESS-BOARD.GOV.
10. USATBCB - U.S. ARCHITECTURAL & TRANSPORTATION BARRIERS COMPLIANCE BOARD; (SEE USAB).

F. STATE GOVERNMENT AGENCIES: WHERE ABBREVIATIONS AND ACRONYMS ARE USED IN SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THEY SHALL MEAN THE RECOGNIZED NAME OF THE ENTITIES IN THE FOLLOWING LIST. THIS INFORMATION IS SUBJECT TO CHANGE AND IS BELIEVED TO BE ACCURATE AS OF THE DATE OF THE CONTRACT DOCUMENTS.
1. ACHA – AGENCY FOR HEALTH CARE ADMINISTRATION; WWW.ACHA.MYFLORIDA.COM.
2. ADEM – ALABAMA DEPT. OF ENVIRONMENTAL MANAGEMENT; WWW.ADEM.ALABAMA.GOV
3. ADPH – ALABAMA DEPARTMENT OF PUBLIC HEALTH; WWW.ADPH.ORG.
4. DCH – GEORGIA DEPARTMENT OF COMMUNITY HEALTH; WWW.DCH.GEORGIA.GOV
5. DCM – DEPARTMENT OF CONSTRUCTION MANAGEMENT WWW.DCM.ALABAMA.GOV

PART 2 - EXECUTION (NOT USED)

END OF SECTION 01 4200

SECTION 01 4216

DEFINITIONS AND STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "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.

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

D. "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."

E. "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.

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

G. "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.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "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.

1.3 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.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(703) 358-2960
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America www.airbarrier.org	(866) 956-5888
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	American Concrete Institute www.concrete.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216

AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHA	American Hardboard Association (Now part of CPA)	
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)	
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc.	(405) 780-7372

	www.aosaseed.com	
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA EWS	APA - The Engineered Wood Association; Engineered Wood Systems (See APA - The Engineered Wood Association)	
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9500
AWCI	Association of the Wall and Ceiling Industry www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association	

	(Now WCMA)	
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association) www.awpa.com	(205) 733-4077
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI, Inc. www.bicsi.org	(800) 242-7405 (813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
BWF	Badminton World Federation (Formerly: IBF - International Badminton Federation) www.internationalbadminton.org	6-03-9283 7155
CCC	Carpet Cushion Council www.carpetcushion.org	(610) 527-3880
CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CEA	Consumer Electronics Association	(866) 858-1555

	www.ce.org	(703) 907-7600
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CPA	Composite Panel Association www.pbmdf.com	(301) 670-0604
CPPA	Corrugated Polyethylene Pipe Association www.cppa-info.org	(800) 510-2772 (202) 462-9607
CRI	Carpet and Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	Canadian Standards Association	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-4000
CSI	Cast Stone Institute www.caststone.org	(717) 272-3744
CSI	Construction Specifications Institute (The)	(800) 689-2900

	www.csinet.org	(703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee www.ejdc.org	(703) 295-5000
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association (Electrostatic Discharge Association) www.esda.org	(315) 339-6937
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA) www.intertek.com	(800) 967-5352
FIBA	Federation Internationale de Basketball (The International Basketball Federation) www.fiba.com	41 22 545 00 00
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation) www.fivb.ch	41 21 345 35 35
FM Approvals	FM Approvals LLC www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000

FMRC	Factory Mutual Research (Now FM Global)	
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridaroof.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	(Part of GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (Now CSA International)	

IBF	International Badminton Federation (Now BWF)	
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 255-1561
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
	Available from ANSI www.ansi.org	(202) 293-8020
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(877) 464-7732 (702) 567-8150
ITS	Intertek Testing Service NA (Now ETL SEMCO)	
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association	(703) 264-1690

	www.kcma.org	
LMA	Laminating Materials Association (Now part of CPA)	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association, Inc. www.maplefloor.org	(888) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. www.metalframingmfg.org	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937 (604) 298-7578
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(630) 942-6591
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(800) 797-6623 (281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAGWS	National Association for Girls and Women in Sport www.aahperd.org/nagws/	(800) 213-7193, ext. 453

NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-2300
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (269) 488-6382
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890

NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association) www.nofma.com	(901) 526-5016
NOMMA	National Ornamental & Miscellaneous Metals Association www.nomma.org	(888) 516-8585
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736 (540) 751-0930
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)	
NWWDA	National Wood Window and Door Association (Now WDMA)	
OPL	Omega Point Laboratories, Inc. (Now ITS)	
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute	(800) 589-8956

	www.pdionline.org	(978) 557-0720
PGI	PVC Geomembrane Institute http://pgi-tp.ce.uiuc.edu	(217) 333-3929
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America) www.landcarenetwork.org	(800) 395-2522 (703) 736-9666
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
RIS	Redwood Inspection Service www.redwoodinspection.com	(888) 225-7339 (415) 382-0662
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(877) 294-5424 (516) 294-5424
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIA	Security Industry Association www.siaonline.org	(866) 817-8888 (703) 683-2075
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)	
SJI	Steel Joist Institute	(843) 626-1995

	www.steeljoist.org	
SMA	Screen Manufacturers Association www.smacentral.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. (Now TCNA)	
TCNA	Tile Council of North America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance	(703) 907-7700

	www.tiaonline.org	
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrasssod.org	(800) 405-8873 (847) 649-5555
TRI	Tile Roofing Institute www.tileroofing.org	(312) 670-4177
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800
USGBC	U.S. Green Building Council www.usgbc.org	(800) 795-1747
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association www.wcmanet.org	(212) 297-2122
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association) www.windowcoverings.org	(800) 506-4636 (212) 297-2109
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (847) 299-5200

WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WIC	Woodwork Institute of California (Now WI)	
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
UBC	Uniform Building Code (See ICC)	

C. 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 following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from U.S. Access Board	(800) 872-2253 (202) 272-0080

	www.access-board.gov	
CFR	Code of Federal Regulations Available from Government Printing Office www.gpoaccess.gov/cfr/index.html	(866) 512-1800 (202) 512-1800
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-2664
DSCC	Defense Supply Center Columbus (See FS)	
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-2664
	Available from Defense Standardization Program www.dps.dla.mil	
	Available from General Services Administration www.gsa.gov	(202) 619-8925
	Available from National Institute of Building Sciences www.wbdg.org/ccb	(202) 289-7800
FTMS	Federal Test Method Standard (See FS)	
MIL	(See MILSPEC)	
MIL-STD	(See MILSPEC)	
MILSPEC	Military Specification and Standards Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-664
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	(800) 872-253 (202) 272-080

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF DEFINITIONS AND STANDARDS

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Sections:

1. Division 01 Section "Summary" for limitations on work restrictions and utility interruptions.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

B. Water Service: Pay water service use charges for water used by all entities for construction operations.

C. Electric Power Service: Pay electric power service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

C. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage, including delivery, handling, and storage

provisions for materials subject to water absorption or water damage, discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water damaged Work.

1. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

1.5 QUALITY ASSURANCE

A. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate project meetings specified in other Division 1 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
2. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with not less than 1 receptacle on each wall. Furnish room with conference table, chairs, and 4-foot- square tack and marker boards.
3. Drinking water and working private toilet.
4. Coffee machine and supplies.
5. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.2 EQUIPMENT

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

PART 3 - EXECUTION

3.1 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.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

D. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

E. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed.

a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.

b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.

F. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices

G. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

H. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

1. Install electric power service overhead, unless otherwise indicated.

I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Install lighting for Project identification sign.

J. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install 2 telephone line(s) for each field office.

1. At each telephone, post a list of important telephone numbers.

a. Police and fire departments.
b. Ambulance service.
c. Contractor's home office.
d. Principal subcontractors' field and home offices.

2. Provide superintendent with cellular telephone for use when away from field office.
3. Electronic Communication Service: Provide a desktop computer in each field office with high speed internet access. One computer shall be for use by Architect and Owner to access project electronic documents and maintain electronic communications.
4. Maintain one laser printer in each filed office connected to one computer for use by the field superintendant and Architect and Owner.
5. Maintain a copy machine or a multi-function printer that has scan and copy functionality on site for use by the field superintendant and Architect and Owner.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Parking: Provide temporary parking areas for construction personnel.

1. Parking is to be coordinated with Jackson Medical Center

C. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated on Drawings and Specifications.
2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.

a. A project sign shall be installed when construction activity begins and shall remain in place throughout the project activity period. The sign shall be waterproof and shall have a background of red, white and blue in three segments and shall be four (4) feet by six (6) feet. Except to meet special or local requirements, project sign shall include the following information as indicated in the attached example:

1) Project Name
2) Name of Owner (City of Jackson Healthcare Authority
3) Name of Architect (GMC, LLC)
4) Name of Contractor

A graphic example of the required sign may be found at the end of this section.

3. Maintain and touchup signs so they are legible at all times.

D. Waste Disposal Facilities: Comply with requirements specified in Division 1 Section "Construction Waste Management."

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Division 1 Section "Summary."

B. Temporary Erosion and Sedimentation Control: Comply with requirements of 2025 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Division 2 Section "Site Clearing."

1. Contractor shall provide and maintain barricades, warning signs, and lights to prevent unauthorized entry into construction areas, to allow for use of site, to protect existing facilities and adjacent properties from damage from construction operations and demolition, and to protect non-owned vehicular traffic, stored materials, and structures from damage.

C. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

D. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.

E. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.

F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

G. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

H. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by tenants from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
2. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
3. Insulate partitions to control noise transmission to occupied areas.
4. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
5. Protect air-handling equipment.
6. Provide walk-off mats at each entrance through temporary partition.

I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.5 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF TEMPORARY FACILITIES AND CONTROLS

SECTION 01 52 40

CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 00 and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Recycling nonhazardous construction waste.
2. Disposing of nonhazardous construction waste.

B. Related Sections:

1. Division 31 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

C. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

D. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

E. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 INFORMATIONAL SUBMITTALS

A. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

1.6 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with Division 1 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.

B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Division 1 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF CONSTRUCTION WASTE MANAGEMENT

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SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Sections:

1. Section 01 23 00 "Alternates" for products selected under an alternate.
2. Section 01 25 00 "Substitution Procedures" for requests for substitutions.
3. Section 01 42 16 "Definitions and Standards" for applicable industry standards for products specified.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product. Request for Substitution must be submitted during the bidding process.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

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

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

    a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."
    b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

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

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. 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 determine compliance with the Contract Documents and to determine 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 foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
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 liquids from freezing.

1.7 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 Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
3. All warranties begin at substantial completion.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. Refer to Divisions 2 through 16. Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, 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.
3. Owner reserves the right to limit selection to products with warranties in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:

    a. *Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered, unless otherwise indicated. All requests for substitution must be received prior to the submission of the submittal schedule or the first 60 days of the contract, whichever is most restrictive.*

4. Manufacturers:

    a. *Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered, unless otherwise indicated. All requests for substitution must be received prior to the submission of the submittal schedule or the first 60 days of the contract, whichever is most restrictive.*

    b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed

manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. *Submission of Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.*
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.
6. *All requests for substitution must be received prior to the submission of the submittal schedule or the first 60 days of the contract, whichever is most restrictive.*

PART 3 - EXECUTION (Not Used)

END OF PRODUCT REQUIREMENTS

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SECTION 01 70 00

EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.
8. Correction of the Work.

B. Related Sections:

1. Division 1 Section "Submittal Procedures" for submitting surveys.
2. Division 1 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
3. Division 7 Section "Through-Penetration Firestop Systems" for patching penetrations in fire-rated construction.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

A. Certificates: Submit certificate signed by professional engineer certifying that location and elevation of improvements comply with requirements.

B. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.5 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from the Architect before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:

    a. Primary operational systems and equipment.
    b. Fire separation assemblies.
    c. Air or smoke barriers.
    d. Fire-suppression systems.
    e. Mechanical systems piping and ducts.
    f. Control systems.
    g. Communication systems.
    h. Electrical wiring systems.
    i. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

    a. Water, moisture, or vapor barriers.
    b. Membranes and flashings.
    c. Exterior curtain-wall construction.
    d. Equipment supports.
    e. Piping, ductwork, vessels, and equipment.
    f. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.6 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

    a. Description of the Work.
    b. List of detrimental conditions, including substrates.
    c. List of unacceptable installation tolerances.
    d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to Architect according to requirements in Division 1 Section "Project Management and Coordination."

E. Surface and Substrate Preparation: Comply with manufacturer's recommendations for preparation of substrates to receive subsequent work.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a professional engineer to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
3. Inform installers of lines and levels to which they must comply.
4. Check the location, level and plumb, of every major element as the Work progresses.
5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

C. Final Property Survey: Engage a professional engineer to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by professional engineer, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Temporary Support: Provide temporary support of work to be cut.

C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

E. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or

adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

F. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

G. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

A. General: *Clean Project site and work areas daily, including laydown areas parking lots and drives.* Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Utilize containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where more than one installer has worked.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Division 1 Section "Temporary Facilities and Controls" and Division 1 Section "Construction Waste Management."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Division 1 Section "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Division 1 Section "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF EXECUTION REQUIREMENTS

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SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.

B. Related Sections:

1. Division 1 Section "Execution Requirements" for progress cleaning of Project site.
2. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
3. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
4. Division 1 Section "Demonstration and Training" for requirements for instructing Owner's personnel.
5. Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following as applicable to the Project. List items below that are incomplete with 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, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, 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 and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
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.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following as Applicable to the Project:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of 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. Use CSI Form 14.1A.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Contractor.
    d. Page number.

4. Submit list of incomplete items in the following format:

    a. PDF electronic file.

1.6 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work. Commencement of all warranties begins at the date of Substantial Completion.

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 warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-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.

4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: 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

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. 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.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

    a. 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.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Remove snow and ice to provide safe access to building.
    f. 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.
    g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    h. Sweep concrete floors broom clean in unoccupied spaces.
    i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
    j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
    k. Remove labels that are not permanent.

l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.

m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
n. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
q. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter upon inspection.

1) Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report upon completion of cleaning.

r. 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.
s. Leave Project clean and ready for occupancy.

C. Construction Waste Disposal: Comply with waste disposal requirements in Division 1 Section "Construction Waste Management."

END OF CLOSEOUT PROCEDURES

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SECTION 01 7839

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Sections:

1. Division 01 Section "Execution Requirements" for final property survey.
2. Division 01 Section "Closeout Procedures" for general closeout procedures.
3. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
4. Divisions 02 through 33 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit Two set(s) of marked-up record prints.

B. Record Specifications: Submit one paper copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one paper copy of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

D. Reports: Submit written report weekly indicating items incorporated in Project record documents concurrent with progress of the Work, including modifications, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

    a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    b. Accurately record information in an acceptable drawing technique.
    c. Record data as soon as possible after obtaining it.
    d. Record and check the markup before enclosing concealed installations.
    e. Cross-reference record prints to corresponding archive photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

    a. Dimensional changes to Drawings.
    b. Revisions to details shown on Drawings.
    c. Locations and depths of underground utilities.
    d. Revisions to routing of piping and conduits.
    e. Revisions to electrical circuitry.
    f. Actual equipment locations.
    g. Locations of concealed internal utilities.
    h. Changes made by Change Order or Construction Change Directive.
    i. Changes made following Architect's written orders.
    j. Details not on the original Contract Drawings.
    k. Field records for variable and concealed conditions.
    l. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Identification: As follows:

    a. Project name.
    b. Date.
    c. Designation "PROJECT RECORD DRAWINGS."
    d. Name of Architect.
    e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
3. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
4. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as scanned PDF electronic file(s) of marked up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as scanned PDF electronic file(s) of marked up paper copy of Product Data.

1. Include record Product Data directory organized by specification section number and title, electronically linked to each item of record Product Data.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as scanned PDF electronic file(s) of marked up miscellaneous record submittals.

1. Include miscellaneous record submittals directory organized by specification section number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF PROJECT RECORD DOCUMENTS