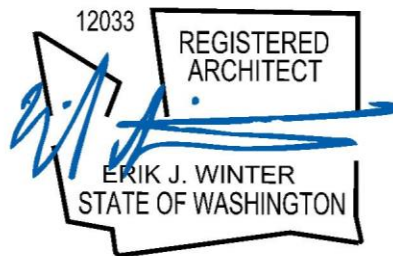


# FISHERS MILL APARTMENTS RENOVATION ROOF & WINDOW REPAIRS

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## TECHNICAL SPECIFICATIONS

Building C  
Building D  
Building E  
Building F  
Building G  
Building H  
Building J  
Building K



May 18, 2020

RELEASE PHASE: Permit Review Submittal

VHA PROJECT NUMBER: 2019-322-3

CIDA PROJECT NUMBER: 190363.01



**VANCOUVER**  
HOUSING AUTHORITY



15895 SW 72ND AVE SUITE 200  
PORTLAND, OREGON 97224  
TEL: 503.226.1285  
FAX: 503.226.1670  
WWW.CIDAINC.COM



**Fishers Mill Apartments Renovation  
Vancouver, Washington**



For:  
**Vancouver Housing Authority**

**Conceptual Artistic Rendering**  
By: **CIDA, Inc.**

(Note: This is for information only and is not contractual.)

**SECTION 000103 – CONSULTANTS**

**ARCHITECT:**

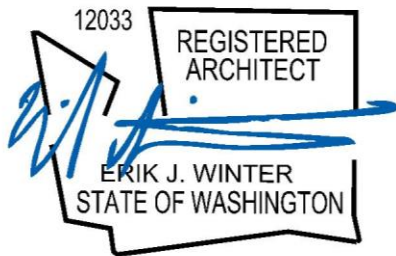
CIDA, Inc.  
15895 SW 72<sup>nd</sup> Avenue, Suite 200  
Portland, Oregon 97224

Phone: (503) 226-1285  
Contact: Erik Winter  
[erikw@cidainc.com](mailto:erikw@cidainc.com)

**STRUCTURAL ENGINEER:**

CIDA, Inc.  
15895 SW 72<sup>nd</sup> Avenue, Suite 200  
Portland, Oregon 97224

Phone: (503) 226-1285  
Contact: Curtis Gagner  
[curtisg@cidainc.com](mailto:curtisg@cidainc.com)



**CONSULTANTS (CONTRACTED TO CIDA, INC.):**

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None at this time.

**CONSULTANTS (CONTRACTED TO OWNER):**

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None at this time.

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006333	Architect’s Supplemental Instructions (ASI) – Form
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006357	Change Order Request (C.O.R.) Proposal – Form

**VANCOUVER HOUSING AUTHORITY COVID-19 PROTOCOLS**

VHA Document, Dated March 25, 2020

**STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR**

AIA Document A101, 2017 Edition

**GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

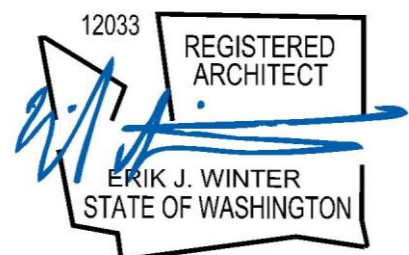
AIA Document A201, 2017 Edition

**INSTRUCTIONS TO BIDDERS**

AIA Document A701, 2018 Edition

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061000	Rough Carpentry
061600	Sheathing
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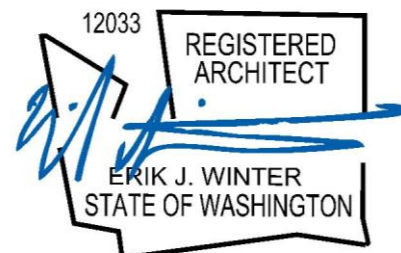
070150	Preparation For Re-Roofing
072500	Weather Barriers
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074646	Fiber-Cement Siding
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079200	Joint Sealants

**DIVISION 08 OPENINGS**

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099113	Exterior Painting
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**DIVISION 10 SPECIALTIES Through DIVISION 33 UTILITIES – Not Used**

**SECTION 001116 - INVITATION TO BID****1.1 PROJECT INFORMATION**

- A. Notice to Bidders: Qualified bidders are invited to submit bids for Project “**2019-322-3 Fishers Mill Apartments Renovation**” as described in this Document according to the Instructions to Bidders.
- B. Project Identification: Fishers Mill Apartments Renovation – Roof and Window Repairs.
  - 1. Project Location: 1000 SE 160<sup>th</sup> Avenue, Vancouver, Washington 98683.
  - 2. Buildings Under This Contract:
    - a. Building C
    - b. Building D
    - c. Building E
    - d. Building F
    - e. Building G
    - f. Building H
    - g. Building J
    - h. Building K
- C. Owner: Vancouver Housing Authority.
  - 1. Owner's Representative: Jim Davis; jdavis@vhausa.com.
- D. Architect: CIDA Inc.
- E. Project Description: Project includes roof and select window (sliding door assemblies) repair and replacement as identified in the Contract Documents.
- F. Construction Contract: Bids will be received for General Contract (all trades).

**1.2 BID SECURITY**

- A. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

**1.3 ADDENDA**

- A. Addenda (if any) to be issued no later than end of business on **[Date to be determined]**. Bidder is responsible for checking and obtaining any and all addenda related to Project through Owner's website.

1.4 TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. Bidders shall begin the Work on receipt of the Notice to Proceed and shall complete the Work within the Contract Time.

1.5 BIDDER'S QUALIFICATIONS

- A. Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work. A Performance Bond, a separate Labor and Material Payment Bond, and Insurance in a form acceptable to Owner will be required of the successful Bidder.
- B. Additional Qualifications:
  - 1. Technical and financial resources to perform and complete Project successfully in full compliance with all Bidding Documents.
  - 2. Good record of past performance which includes quality of work, ability to complete projects on time, compliance with public policy, financial, contractual and tax obligations, and federal and state rules and regulations in performing public construction contracts.
  - 3. Qualified and eligible to receive an award under applicable laws and regulations and not debarred or suspended from federal or state work.
  - 4. Every bidder and contractor must have either (a) completed training on public works and prevailing wages or (b) have experience completing at least three (3) public works projects *and* have maintained a business license in Washington for at least three (3) years to be considered a responsible bidder.

1.6 EQUAL EMPLOYMENT REQUIREMENTS

- A. Owner is an equal opportunity and affirmative action employer. Minimum provisions required for Project include:
  - 1. Section 3 of the Housing and Urban Development Act of 1968, as amended (as implemented at 24 CFR Part 135).
  - 2. Equal employment opportunity.
  - 3. Minimum wages as set forth in the solicitation documents.

1.7 OWNER'S RIGHTS

- 1. Owner reserves the right to:
  - a. Reject any or all bids.
  - b. Define and waive any informalities in the bidding.
  - c. Make a final judgement regarding bidders' responsiveness or non-responsiveness to bidding requirements.

**1.8 ADDITIONAL REQUIREMENTS****A. State Prevailing Wages:**

1. This project is subject to state prevailing wage law and prevailing wage requirements apply as stated in the Invitation to Bid. Residential wage rates are allowed and shall apply as the work on this project meets the definition of “residential construction” under WAC 296-127-010.
2. The Director of the Department of Labor and Industries shall arbitrate disputes of prevailing wage rates.
3. The project is located in Clark County.
4. Wages are available online and should be confirmed at <http://www.lni.wa.gov>. A copy of wage rates is available for viewing in Owner’s office and Owner will provide a hard copy upon request.
5. The bid due date shall be the effective wage rate date that applies to this solicitation and resulting contract.
6. Federal wage rates and weekly payrolls do not apply and are not required for this project.
7. A statement of Intent to Pay Prevailing Wages (Intent) must be filed prior to starting Work and must be approved before a payment on contract will be made; An Affidavit of Wages Paid (Affidavit) must be filed and approved before a final payment on the contract shall be made or request for retainage release can be filed. Intents and Affidavits must be filed by the prime contractor and all subcontractors.
8. All contracts in excess of \$10,000 must have approved Intent posted at the work site. If no approved Intent is available, a complete list of wage rates for Clark County must be posted.
9. Contractors must submit certified payrolls to L&I no less than monthly.
10. Accurate payroll records must be kept for three years after acceptance of the work by all tiers. Contractor must, within 10 days of written request, submit certified copies of the payroll records to the awarding agency and the Department of Labor and Industries.
11. A Notice of Completion document shall be completed by Owner upon final completion; the Department of Labor and Industries, Department of Revenue and Employment Security Division must approve retainage release prior to releasing retainage.
12. Any dispute in connection with the contract which the parties cannot resolve among themselves shall be referred to the Director of L&I for arbitration, and the director’s decision shall be final, conclusive and binding on all parties to the dispute.

**B. Retainage:**

1. Five-Percent (5%).
2. Bonds or securities may not be substituted as an alternate form of retainage.

**C. Sales and Use Tax:**

1. Fully comply with requirements of the State of Washington.
2. Pursuant to State law (RCW 35.82.210), Vancouver Housing Authority is exempt from paying sales tax when it obtains goods and services directly from the Contractor. The Contractor must pay sales tax on materials purchased for this job as if they were the end consumer.



D. Apprenticeship:

1. Contractor shall make best efforts to select contractors that use an approved apprenticeship program as described in the RCW 39.04.300 through 39.04.320. The apprenticeship program requires that Washington State Apprenticeship and Training Council (WSATC)-registered apprentices provide a minimum of fifteen percent (15%) of total labor hours. The contractors selected should meet the requirements of this statute and should ask those who subcontract this work from them to use apprentice labor. Should such builders/contractors not be available, the Contractor may select the otherwise most responsible and responsive contractors, and should document its efforts to comply with the law. Submission of monthly utilization forms will be required.

**END OF SECTION 001116**

**SECTION 002113 - INSTRUCTIONS TO BIDDERS****1.1 INSTRUCTIONS TO BIDDERS**

- A. AIA Document A701, "Instructions to Bidders," is hereby incorporated into the Procurement and Contracting Requirements by reference and a copy is bound in this Project Manual.
- B. AIA Document A101, "Standard Form of Agreement Between Owner and Contractor", is hereby incorporated into the Procurement and Contracting Requirements by reference and a copy is bound in this Project Manual.
- C. AIA Document A201, "General Conditions of the Contract for Construction", is hereby incorporated into the Procurement and Contracting Requirements by reference and a copy is bound in this Project Manual.
- D. Vancouver Housing Authority's Insurance Requirements "ATTACHMENT A INSURANCE REQUIREMENTS" is hereby incorporated into the Procurement and Contracting Requirements by reference and a copy is bound in this Project Manual.
- E. State of Washington Department of Commerce Housing Preservation Program Contract "ATTACHMENT B GENERAL TERMS AND CONDITIONS" is hereby incorporated into the Procurement and Contracting Requirements by reference and a copy is bound in this Project Manual.
- F. "Washington Department of Commerce and the State of Washington are not liable for claims or damages arising from a Subcontractor's performance of the subcontract."
- G. The "Vancouver Housing Authority COVID-19 Protocols", dated March 25, 2020, is hereby incorporated into the Procurement and Contracting Requirements by reference and a copy is bound in this Project Manual.

**END OF SECTION 002113**

**SECTION 002113.1 - ATTACHMENT A – INSURANCE REQUIREMENTS**

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of or failure to perform the work hereunder by the Contractor, its agents, representatives, employees or subcontractors.

**A – Minimum Scope of Insurance**

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence form CG 00 01 11 88).
2. Insurance Services Office form number CA 00 01 06 92 covering Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by State law and Employer's Liability Insurance.

**B – Minimum Limits of Insurance**

Contractor shall maintain limits no less than:

1. Commercial General Liability Insurance. \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
3. Employers Liability or Washington Stop Gap Liability: \$1,000,000 per accident for bodily injury or disease.

**C – Deductibles and Self-Insured Retentions**

Any deductibles or self-insured retentions must be declared to and approved by the Authority. At the option of the Authority, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Authority, its officers, officials, employees and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Authority guaranteeing payment of losses and related investigations, claim administration and defense expenses.

**D – Other Insurance Provisions**

The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The Authority, its officers, officials, employees, and volunteers are to be covered as additional insureds with respect to liability arising out of automobile owned, leased, hired or borrowed by or on behalf of the contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance, or as a separate owner's policy.
2. For any claims related to this project, the Contractor's insurance coverage shall primary insurance as respects the Authority, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the Authority, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled or materially changed, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the Authority.
4. Maintenance of the proper insurance for the duration of the contract is a material element of the contract. Material changes in the required coverage or cancellation of the coverage shall constitute a material breach of contract.

**E – Acceptability of Insurers**

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than B+:V1

**F – Verification of Coverage**

Contractor shall furnish the Authority with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the Authority or on other than the Authority's forms, provided those endorsements conform fully to the requirements. All certificates and endorsements are to be received and approved by the Authority before work commences in sufficient time to permit contractor to remedy any deficiencies. The Authority reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.

**G – Subcontractors**

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor in a manner and in such time as to permit Authority to approve them before subcontractors' work begins. All coverages for subcontractors shall be subject to all of the requirements stated herein.

VHA-IRNC (02/2006)

**END OF SECTION 002113.1**

**SECTION 003119 – EXISTING CONDITIONS INFORMATION****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes information that is made available to the Contractor and is not part of the Contract Documents. Any information made available is for Contractors' convenience and are intended to supplement rather than serve in lieu of Contractors' own investigations. Information supplied are not warranty or guarantee, either expressed or implied, of existing conditions.

**1.2 AVAILABILITY**

- A. Referenced Available Project Information is bound under separate cover, unless indicated otherwise, and is available for viewing at the office of Owner.
- B. Additional available project information may be released without notice by the Owner or Architect.

**1.3 AVAILABLE PROJECT INFORMATION**

- A. Existing Architectural Drawings for “Fishers Mill Apartments” prepared by William Wilson Architects, dated March 11, 2009:
  - 1. Sheet A0.1: Title Sheet
  - 2. Sheet A0.2: Abbreviations and Legend
  - 3. Sheet A1.1: Site Plan - North
  - 4. Sheet A1.2: Site Plan - South
  - 5. Sheet A2.1: Building Type A Plans
  - 6. Sheet A2.2: Building Type B Plans
  - 7. Sheet A2.3: Building Type C Plans
  - 8. Sheet A2.4: Building Type D Plans
  - 9. Sheet A2.5: Building Type E Plans
  - 10. Sheet A2.6: Building Type F Plans
  - 11. Sheet A2.7: Clubhouse Floor Plan
  - 12. Sheet A2.8: Clubhouse Roof Plan
  - 13. Sheet A3.1: Enlarged Deck Plans
  - 14. Sheet A3.2: Enlarged Deck Reflected Ceiling Plans
  - 15. Sheet A4.1: Enlarged Stair Tower Elevations
  - 16. Sheet A4.2: Sections
  - 17. Sheet A4.3: Sections
  - 18. Sheet A4.4: Sections
  - 19. Sheet A5.1: Elevations – Building Type A – Buildings E, F, J, K, L, P, S, DD, JJ, KK
  - 20. Sheet A5.2: Building Type B Elevations
  - 21. Sheet A5.3: Building Type C Elevations
  - 22. Sheet A5.4: Building Type D Elevations

23. Sheet A5.5: Building Type E Elevations
  24. Sheet A5.6: Building Type F Elevations - Garage Elevations
  25. Sheet A5.7: Clubhouse Elevations
  26. Sheet A6.1: Details / Interior Elevations
  27. Sheet A6.2: Details / Interior Elevations
  28. Sheet A7.1: Door & Window Schedule
  29. Sheet A8.1: Details
  30. Sheet A8.2: Details
  31. Sheet A8.3: Details
  32. Sheet A8.4: Details
  33. Sheet A8.5: Details
  34. Sheet A8.6: Details
- B. Existing Structural Drawings for “Fishers Mill Apartments” prepared by Horn Consulting Engineers, LLC, dated March 10, 2009:
1. Sheet S3.1: Details
  2. Sheet S3.2: Details
- C. Existing Architectural Drawings for “Fishers Mill” prepared by Haller and Associates, dated January 1989
1. Sheet A1: Typical Unit “A” and Typical Unit “AH”
  2. Sheet A2: Typical Unit “B” and Typical Unit “BH”
  3. Sheet A3: Typical Unit “C” and Typical Unit “CH”

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**END OF SECTION 003119**

**SECTION 004113 – BID FORM – STIPULATED SUM – SINGLE-PRIME CONTRACT****BID FORM**

Project # \_\_\_\_\_ Project Name: \_\_\_\_\_

In submitting this Bid, the Bidder represents the following.

- A. This Bid will remain subject to acceptance for 60 days after the day of opening;
- B. The Owner has a right to reject this Bid.
- C. Bidder agrees to execute and deliver a contract in the prescribed form attached hereto within ten (10) calendar days after presented to Bidder.
- D. Bidder will sign and submit the Agreement with Bonds, Insurance, and other documents required by the bid documents within 7 calendar days after the date of Owner's Notice of Award.
- E. Bidder has examined copies of all the Bidding Documents, and has visited the site and become familiar with the general, local, and site conditions.
- F. Bidder will ensure equal opportunity employment and engage in Affirmative Efforts in the solicitation of women and minorities, Section 3 residents, WMBE and Section 3 firms for participation on the resulting Contract.
- G. Bidder is in compliance with all the responsibility requirements under RCW 39.04.350, including, but not limited to: having a certificate of registration under RCW 18.27 prior to bidding; a UBI number; industrial insurance coverage if required under Title 51; an employment security number Title 50; and state excise tax registration number under Title 82.
- H. Bidder accepts the provisions of and represents that Bid is in accordance with the Contract Documents.
- I. Bidder has been in business as a general contractor for at least 4 years and have had 4 years minimum experience in the line of work required by the Invitation To Bid.
- J. Bidder has the technical and financial resources to perform and complete the project successfully in compliance with the drawings and specifications, terms and conditions of the Contract Documents.

Bidder acknowledges receipt of Addenda \_\_\_\_\_

The following completed and signed documents are attached to and made a condition of this Bid:

- 1. Bid Form
- 2. Bid Bond Form
- 3. Suspension and Debarment Compliance Certificate
- 4. Form of Non-Collusive Affidavit
- 5. Section 3 Self Certification Form
- 6. Section 3 Hiring Plan

BID FORM CONTINUED ON NEXT PAGE

The undersigned Bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date for this Project, the bidder is not a “willful” violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

Pursuant to, and in compliance with the Invitation To Bid and other documents relating thereto, and subject to all conditions thereof, the undersigned hereby proposes and agrees to furnish all labor, materials, equipment and testing necessary to perform and furnish the Work as indicated in the Contract Documents, and in accordance with the terms and conditions of the Contract Documents including taxes and permits to complete the project for the lump sum amount of (written out):

\_\_\_\_\_ U.S. DOLLARS

**BASE BID Amount:** \$ \_\_\_\_\_

**DEDUCTIVE ALTERNATES:** The following deductive alternate(s) are an integral part of this bid and to be responsive, the bidder shall bid for the Base bid, and also for the following listed deductive alternates. Deductive alternate amounts are included in the total base bid amount.

Refer to Project Manual Section 012300 – Alternates for additional information and description of each alternate.

1. Deductive Alternate No. 01:  
All Work at Building C. \$ \_\_\_\_\_ Lump Sum
2. Deductive Alternate No. 02:  
All Work at Building D. \$ \_\_\_\_\_ Lump Sum
3. Deductive Alternate No. 03:  
All Work at Building E. \$ \_\_\_\_\_ Lump Sum
4. Deductive Alternate No. 04:  
All Work at Building K. \$ \_\_\_\_\_ Lump Sum

BID FORM CONTINUED ON NEXT PAGE



**UNIT PRICES:** The following unit prices are an integral part of this bid and shall be in addition to the base bid. Unit prices amounts are NOT included in the total base bid amount.

Refer to Project Manual, Section 012200 – Unit Prices for additional information and description of each unit price.

1. Unit Price No. 01: Plywood Sheathing. The quantity of plywood sheathing to be replaced is unknown at this time. The Owner will use a quantity of 3200sf feet to evaluate the bids.

\$\_\_\_\_\_s.f.

2. Unit Price No. 02: Sliding Glass Door Replacement. The quantity of sliding glass doors to be replaced is unknown at this time. The Owner will use a quantity of 80 to evaluate the bids.

\$\_\_\_\_\_each

State of Washington Contractors License No.: \_\_\_\_\_

Washington UBI No.: \_\_\_\_\_

**OFFICIAL AUTHORIZED TO SIGN FOR BIDDER:**

I certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct:

Signature

Date

Print Name and Title

Location or Place Executed: (City, State)

**SECTION 004313 – BID BOND**

KNOW ALL MEN BY THESE PRESENTS,

That we the undersigned, \_\_\_\_\_ as PRINCIPAL, and

\_\_\_\_\_ as SURETY are held and bound unto the  
Vancouver Housing Authority, of Vancouver, Washington, hereinafter called the “VHA”, in the penal sum

of \_\_\_\_\_ and no/100, (\$ \_\_\_\_\_) DOLLARS,

lawful money of the United States, for payment of which sum will and truly to be made, we bind ourselves,  
our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITON OF THIS OBLIGATION IS SUCH, That whereas the Principal has submitted the  
accompanying Bid, dated \_\_\_\_\_, 2020, for \_\_\_\_\_.

NOW, THEREFORE, if the Principal shall not withdraw this Bid within the period specified therein after  
the opening of the same, or if no period be specified within sixty (60) days after prescribed forms are  
presented to him for signature, enter into written contract with VHA in accordance with the Bid as accepted,  
and give bond with good and sufficient surety, or sureties, as may be required for the faithful performance  
and proper fulfillment of such contract; or in the event of the withdrawal of said Bid within the period  
specified, or failure to enter into such contract and give such bond with the time specified, if the Principal  
shall pay VHA the difference between the amount specified in said Bid and amount for which VHA may  
procure the required work or supplies or both. If the latter amount be in excess of the former, then the above  
obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several  
seals this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

(L.S.)

Principal: \_\_\_\_\_

Surety: \_\_\_\_\_

SEAL

By: \_\_\_\_\_

**SECTION 004313.1 – SUSPENSION AND DEBARMENT COMPLIANCE CERTIFICATE**

The undersigned Bidder, hereby certifies that, it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency; have not within a three-year period preceding this Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses stated herein; and have not within a three-year period preceding this response had one or more public transactions (Federal, State or local) terminated for cause or default.

Contractor's Firm Name: \_\_\_\_\_

Address / City / State / Zip : \_\_\_\_\_

	PRINCIPAL(S) Name(s)	Title(s)
1		
2		
3		

Prime Contractor's Signature	Printed Name	Title	Date

**SECTION 004519 – NON-COLLUSION AFFIDAVIT**

State of \_\_\_\_\_

County of \_\_\_\_\_

\_\_\_\_\_ who is a \_\_\_\_\_ of the

firm of \_\_\_\_\_ being first  
duly sworn, on their oath, says that the bid herewith submitted is genuine and not a sham or collusive bid,  
or made in the interest or on behalf of any person not therein named; and further states that the said bidder  
has or was not directly or indirectly induced or solicited by any bidder on the above work or supplies to  
put in a sham bid, or any person or corporation to refrain from bidding; and that said bidder has not in any  
manner sought by collusion to secure themselves an advantage over any other bidder or bidders, or to  
secure any advantage against Columbia Non-Profit Housing or any person interested in the proposed  
contract; and that all statements in said proposal or bid are true.

\_\_\_\_\_  
BIDDER  
(if individual)

\_\_\_\_\_  
PARTNER  
(if partnership)

\_\_\_\_\_  
OFFICER  
(if corporation)

Subscribed and sworn to before me

This \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for the State of Washington,

residing at \_\_\_\_\_

My commission expires on \_\_\_\_\_ 20\_\_\_\_\_.

**SECTION 005000 - CONTRACTING FORMS AND SUPPLEMENTS****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. Administrative Forms:**

- 1. This Section announces typical administrative forms to be used during construction of the Project as follows:
  - a. AIA Document G702 and G703 – Application for Certification and Payment
  - b. AIA Document G701 – Change Order
  - c. AIA Document G706 – Contractor’s Affidavit of Payment of Debts and Claims
  - d. AIA Document G706A – Contractor’s Affidavit of Release of Liens
  - e. AIA Document G707 – Consent of Surety Company to Final Payment
  - f. AIA Document G705 – Certificate of Insurance
  - g. AIA Document A312 – Performance Bond and Payment Bond
  - h. Contractor’s Affidavit for Partial Payment
  - i. Subcontractor’s Partial Waiver and Release of Lien
  - j. Subcontractor’s Final Waiver and Release of Lien
  - k. Section 3 New Hires Monthly Compliance Report - Form (VHA Document)
  - l. Section 3 Monthly Hiring Summary Report - Form (VHA Document)
  - m. Section 3 Self-Certification – Form (VHA Document)
  - n. Conditional Release and Unconditional Release (VHA Document – form)
- 2. The Owner shall initiate the “Notice To Proceed” (NTP). A copy of the NTP shall be delivered to the Architect within five (5) business days of date indicated on NTP.

**B. Project forms:**

- 1. Specification Division 00, Section “Notice To Proceed (NTP)”.
- 2. Specification Division 00, Section “Project Forms”.

**C. Conditional Release and Unconditional Release (VHA Documents).**

- 1. Refer to documents at end of this specification Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 005000**

**005500 – NOTICE TO PROCEED (NTP)**

---

Project: **Fishers Mill Apartments Renovation**

Date: \_\_\_\_\_

CIDA Project Number: **190393.01**VHA Project Number: **2019-322-3**

To: \_\_\_\_\_

Contract For: **General Construction**

---

You are hereby notified that the Contract times stated for the Project will commence on \_\_\_\_\_  
(Date)

---

On that date, the Contractor may begin performing the obligations required by the Contract Documents.

---

Before commencing Work at the Project site, deliver the certificates of insurance to the Owner as required by the Contract Documents. Also before commencing Work at the Project site, the Contractor must perform and deliver to the Owner and the Architect:

1. Schedule of Values.
  2. Construction Schedule.
  3. Submittal Schedule.
  4. List of Sub-contractors and Major Materials Suppliers.
  5. List of Design Build/Delegated Design Professionals.
- 

Authorized By: \_\_\_\_\_  
(Owner)

\_\_\_\_\_  
(Authorized Signature)\_\_\_\_\_  
(Title)

Accepted By: \_\_\_\_\_  
(Contractor)

\_\_\_\_\_  
(Authorized Signature)\_\_\_\_\_  
(Title)\_\_\_\_\_  
(Date)

---

Attachments: \_\_\_\_\_

Copies:    ☐ Owner            ☐ Owner's Representative  
              ☐ A/E                ☐ File

**SECTION 006000 – PROJECT FORMS****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 GENERAL CONTRACTOR RESPONSIBILITIES**

- A. The information provided under this Section is made available to the General Contractor to aid in the project management and construction of the facility.

**1.3 FORM OF AGREEMENT AND GENERAL CONDITIONS**

- A. The following form of Owner/Contractor Agreement and form of the General Conditions shall be used for Project:
  - 1. AIA Document A101-2017 “Standard Form of Agreement between Owner and Contractor Where the Basis of Payment is a Stipulated Sum.”
    - a. The General Conditions for Project are AIA Document A201-2017 “General Conditions of the Contract for Construction.”
  - 2. The General Conditions are included in the Project Manual.
  - 3. The Supplementary Conditions for Project are separately prepared and included in the Project Manual.

**1.4 PROCUREMENT FORMS**

- A. The following forms shall be used for Project:
  - 1. Bid Form: Form provided in Specification Section 004113.
  - 2. Bid Bond Form: Form provided in Specification Section 004313.
  - 3. Suspension and Debarment Compliance Certificate: Form provided in Specification Section 004313.1.
  - 4. Non-Collusion Affidavit: Form provided in Specification Section 004519.
  - 5. Instructions to Bidders: AIA Document A701-2018.

**1.5 ADMINISTRATIVE FORMS**

- A. Information and Modification Forms:
  - 1. Request For Information (RFI): AIA Document G716-2004 “Request for Information” (RFI), form provided in Specification Section 006313, or Contractor’s standard form if approved previously by Owner and Architect.
  - 2. Substitution Request: Form provided in Specification Section 006325.



3. Architect's Supplemental Instructions (ASI): Form provided in Specification Section 006333.
4. Construction Change Directive (CCD): AIA Document G714-201 "Construction Change Directive" or form provided in Specification Section 006346.
5. Architect's Proposal Request (PR): Form provided in Specification Section 006353.
6. Change Order Request (C.O.R.) Proposal: Form provided in Specification Section or Contractor's standard form if approved previously by Owner and Architect.
7. Change Order Form: AIA Document G701-2017 "Change Order".

**B. Payment Forms:**

1. Schedule of Values Form: AIA Document G703-1992 "Continuation Sheet".
2. Payment Application: AIA Document G702-1992/703-1992 "Application and Certificate for Payment and Continuation Sheet".
3. Form of Contractor's Affidavit: AIA Document G706-1994 "Contractor's Affidavit of Payment of Debts and Claims".
4. Form of Affidavit of Release of Liens: AIA Document G706A-1994 "Contractor's Affidavit of Payment of Release of Liens".
5. Form of Consent of Surety: AIA Document G707-1994 "Consent of Surety to Final Payment."

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

**END OF SECTION 006000**

**SECTION 006113 – PERFORMANCE AND PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS,

That we the undersigned, \_\_\_\_\_ as PRINCIPAL, and

\_\_\_\_\_ as SURETY are held firmly bound unto

Vancouver Housing Authority, of Vancouver, Washington, hereinafter called the “VHA”, in the penal sum

of \_\_\_\_\_ and no/100, (\$ \_\_\_\_\_) DOLLARS,

lawful money of the United States, for payment of which sum we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally.

WHEREAS, the Principal has entered into a certain contract with VHA, dated \_\_\_\_\_, 2020, A copy of which is hereto attached and made a part hereof.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT IF THE Principal shall in all respects fully perform the Contract and all duly authorized modifications thereof, during its original terms and any extensions thereof that may be granted and during any guaranty period for which the Contract provides, and if the Principal shall fully satisfy all claims arising out of the prosecution of the Work under the Contract and shall fully indemnify VHA for all expenses which it may incur by reason of such claims, including its attorney’s fees and court costs, and if the Principal shall make full payment to all persons supplying labor, services, materials, or equipment in the prosecution of the Work under the Contract as well as payment of gasoline and special motor fuels taxes in the performance of the Contract and all motor vehicle fees required for commercial motor vehicles used in connection with the performance of the Contract, then this obligation shall be void; unless, it shall remain in full force and effect. No modification of the Contract or extension of the term thereof, nor any forbearance on the part of VHA, shall in any way release the Principal or the Surety from liability hereunder. Notice to the Surety of any modification, extension, or forbearance is hereby waived.

IN WITNESS WHEREOF, the aforesaid Principal and Surety have executed this instrument and affixed their seals hereto this \_\_\_\_\_ day of \_\_\_\_\_, 2020

Principal: \_\_\_\_\_

By: \_\_\_\_\_

Witness to Principal: \_\_\_\_\_

SEAL

ATTEST: Surety: \_\_\_\_\_

By: \_\_\_\_\_

Witness to Surety: \_\_\_\_\_

**SECTION 006113.1 – SECTION 3 MONTHLY HIRING SUMMARY REPORT**General Contractor Name  
Amount

Project Name

Contract

**SECTION 3 ACTIVITIES REPORT FOR MONTH ENDING \_\_\_\_\_**

\_\_\_\_ NO NEW HIRING OR SUBCONTRACTING WAS DONE THIS MONTH BY ANYONE  
(General Contractor: If checked, stop here, summarize YTD , sign bottom of form and turn in with monthly reports)

**SUMMARY OF HIRING** Section 3 compliance is achieved when 30% of new hires are Section 3 residents

Job Category	# New Hires this Month	# New Hires YTD	# New hires that are Section 3 Residents YTD	# of Section 3 Trainees YTD
Professional				
Technical				
Office/Clerical				
Managers				
Sales				
Craft Workers (skilled)				
Operatives (semi-skilled)				
Laborers				
Service Workers				
Other (list) i.e. Janitors				
Total				

**NEW SUB CONTRACTS (1st tier, 2nd tier, etc) AWARDED**

Section 3 compliance is achieved when the Contractor subcontracts 25 % of the contract dollar amount awarded to all subcontractors (construction and non-construction) to Section 3 business concerns.

**Current YTD**

Total amount of new construction contracts awarded: \$\_\_\_\_\_ \$\_\_\_\_\_

Total dollar amount awarded to Section 3 businesses: \$\_\_\_\_\_ \$\_\_\_\_\_

Total amount of new non-construction contracts awarded: \$\_\_\_\_\_ \$\_\_\_\_\_

Total dollar amount awarded to Section 3 businesses: \$\_\_\_\_\_ \$\_\_\_\_\_

**General Contractor: Confirm outreach documentation is included for non-Section 3 hiring.**

I, the undersigned, on behalf of the Contractor, hereby certify, that the above information is true to the best of my knowledge.

Signature\_\_\_\_\_ Date\_\_\_\_\_

**WARNING:** Title 18, US Code Section 1001, States that a person who knowingly and willingly makes false or fraudulent statements to any Department or Agency of the United States is guilty of a felony. State law may also provide penalties for false or fraudulent statements.

**SECTION 006113.2 – SECTION 3 NEW HIRES – MONTHLY COMPLIANCE FORM**

**COLUMBIA NON-PROFIT HOUSING  
NEW HIRES SECTION 3 MONTHLY COMPLIANCE FORM  
(Subcontractors to complete this form)**

**All subcontractors** are required to submit this form to the General Contractor monthly; the General Contractor will deliver this form to Vancouver Housing Authority with their monthly pay request.

Project Name: \_\_\_\_\_ Company Name \_\_\_\_\_

☐ I have not hired any new employees/subcontractors during the MONTH/YEAR of \_\_\_\_/\_\_\_\_

**IF CHECKED, STOP HERE AND SIGN BOTTOM OF FORM**

☐ I have hired \_\_\_\_ Section 3 residents and/or \_\_\_\_ non-Section 3 residents

**During the month/year of** \_\_\_\_/\_\_\_\_:

Trade (s) \_\_\_\_\_

I have subcontracted with a Section 3 business \_\_\_\_\_ or Non Section 3 business \_\_\_\_\_

Name of business \_\_\_\_\_ Amount of Contract \_\_\_\_\_

**If you hired a NON Section 3 resident or business, show that you had taken, at a minimum, ALL the following recruitment steps to hire a Section 3 resident/business:**

- \_\_\_\_\_ I have contacted Bridgette Fahnbulleh (360-993-9556) the VHA Section 3 coordinator, to inform her of my hiring need. Date contacted.
- \_\_\_\_\_ I have checked the VHA websites for Section 3 businesses – www.vhausa.com under the Section 3 tab (for business hiring only)
- \_\_\_\_\_ I have advertised to fill vacancies at the site and/or placed hiring signs or posters in prominent places at job site. Attach copies of any advertisements and submit photographs of hiring signs/posters to document that the above step was carried out.
- \_\_\_\_\_ Kept a log of all applicants and retained copies of any employment applications completed by public housing, Section 8 voucher holders or other Section 3 residents AND/OR kept a log of all businesses contacted.
- \_\_\_\_\_ Sent a notice about Section 3 training and employment requirements and opportunities to labor organizations or to worker representatives with whom our firm has a collective bargaining or other agreement.
- \_\_\_\_\_ Other outreach:

**Reason why Section 3 resident/business was not hired:**

\_\_\_\_\_  
Authorized Signer

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
Title

**SECTION 006113.2 – SECTION 3 SELF-CERTIFICATION**

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_ EMAIL: \_\_\_\_\_

Your company is eligible for Section 3 Certification if you fall into any of the Section 3 Business Ranking Categories below:

**Category 1 Business:** 51% or more owned by residents of the housing development for which the section 3 covered assistance is expended, or whose full time, permanent workforce includes 30% of such residents as employees.

**Category 2 Business:** 51% or more owned by residents of other low income housing developments or whose full-time, permanent workforce includes 30% of such residents as employees.

**Category 3 Business:** HUD Youthbuild Programs being carried out in the county in which the Section 3 funding is being expended.

**Category 4 Business:** 51% or more owned by Section 3 residents or whose full time, permanent Workforce includes no less than 30% Section 3 residents; or that sub-contract in excess of 25% of the total amount of subcontracts to Section 3 businesses.

**Section 3 resident means** (in order of preference): (1) A public housing resident; or (2) a low- or very low-income person residing in Clark County; or (3) a low- or very low-income person residing in Columbia, Washington, Yamhill, Clackamas, Multnomah, and Skamania counties. Low- or very low-income persons are those persons that fall below the income limits noted directly below.

Effective 4/24/2019 Number of Individuals in Household							
1	2	3	4	5	6	7	8
49,250	56,250	63,300	70,300	75,950	81,550	87,200	92,800

Please check the appropriate box(es) below:

☐ My company is NOT a Section 3 business (If checked- STOP and go to next page)

☐ I hereby certify that my company is a Section 3 Contractor according to Business Category  
#: ☐ 1 ☐ 2 ☐ 3 ☐ 4 above.

\_\_\_\_\_  
Authorized Signer (Print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

**WARNING:** Title 18, US Code Section 1001, States that a person who knowingly and willingly makes false or fraudulent statements to any Department or Agency of the United States is guilty of a felony. State law may also provide penalties for false or fraudulent statements.

**006313 – REQUEST FOR INFORMATION (RFI)**

To: **CIDA, Inc.** From:  
Attn:  
**15895 SW 72<sup>nd</sup> Avenue, Suite 200**  
**Portland, Oregon 97224**

Project Name: **Fishers Mill Apartments Renovation** Issue Date:

Project Numbers: Requested  
CIDA No.: **190393.01** Reply Date:  
VHA No.: **2019-322-3**  
Contractor No.: RFI No.:

RFI Title: \_\_\_\_\_ Drawing / Spec. Section: \_\_\_\_\_

RFI Description: *(Fully describe the question or type of information requested)*

References / Attachments: ☐ No ☐ Yes

Specifications: Drawings: Other:

Sender's Recommendation: *(If RFI concerns a site or construction condition, the sender shall provide a recommended solution, including cost and/or schedule considerations)*

Critical to Schedule: ☐ No ☐ Yes  
Compact Cost: ☐ No ☐ Yes If yes, magnitude of cost \$: \_\_\_\_\_

Date Reply Required: \_\_\_\_\_ Initiated and Submitted By: \_\_\_\_\_

Receiver's Reply:

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_  
Print Name of Person and Firm

**NOTE:** IF THIS RESPONSE RESULTS IN ADDITIONAL COST OR TIME, OBTAIN A WRITTEN CHANGE ORDER BEFORE PROCEEDING.

**006325 – SUBSTITUTION REQUEST**

To: **CIDA, Inc.** From:  
Attn:  
**15895 SW 72<sup>nd</sup> Avenue, Suite 200**  
**Portland, Oregon 97224**

Project Name: **Fishers Mill Apartments** Issue Date:  
**Renovation**

Project Numbers:

CIDA No.: **190393.01**VHA No.: **2019-322-3**

Contractor No.:

---

Specification Section: \_\_\_\_\_ Page No.: \_\_\_\_\_ Paragraph: \_\_\_\_\_

---

Specified Item Description: *(Provide brief description)*

---

---

Proposed Substitution Description: *(Provide brief description)*

---

---

Attachments Shall Include, But Are Not Limited To:

1. Proposed substituted product(s) description(s), specifications, drawings, photographs, performances and test date(s) that are all adequate for evaluation of request, including identification of applicable portions of the Project.
2. The attached data shall include description of change(s) to Contract Documents that the proposed substitution requires for proper and complete installation.

---

**The Undersigned certifies that the following is correct:**

1. The proposed substitution does not affect dimensions shown on drawings.
2. The proposed substitution has no adverse effect on other trades, construction schedule or specified warranty requirements.
3. Maintenance and service parts are available locally or readily obtainable for the proposed substitution.
4. The undersigned shall pay for all changes to the Project design as may be required due to the substitution, including: Architectural and Engineering design services, detailing, and construction costs caused by the proposed substitution as may be required.

**The Undersigned further certifies that the function, appearance, and quality of the proposed substitution are equivalent or superior to specified item.**

**The Undersigned agrees that the terms and conditions for substitutions found in the Contract Documents apply to this proposed substitution request.**

**Submitted By:**\_\_\_\_\_  
Name (Printed)

Signature: \_\_\_\_\_

Firm Name: \_\_\_\_\_

Firm Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

Date of Request: \_\_\_\_\_

Number of Sheets Attached: \_\_\_\_\_

**For Use by the A/E:**

Approved: \_\_\_\_\_

Approved as Noted: \_\_\_\_\_

Not Approved: \_\_\_\_\_

Received Too Late: \_\_\_\_\_

By: \_\_\_\_\_

Date: \_\_\_\_\_

Remarks: \_\_\_\_\_



**006333 – ARCHITECT’S SUPPLEMENTAL INSTRUCTIONS (ASI)**

Architect: **CIDA, Inc.**  
**15895 SW 72<sup>nd</sup> Avenue**  
**Suite 200**  
**Portland, Oregon 97224**

Owner: **Vancouver Housing Authority**  
**2500 Main Street**  
**Vancouver, Washington**  
**98660**

Contractor:

Owner’s Representative: **Vancouver Housing Authority**  
**2500 Main Street**  
**Vancouver, Washington**  
**98660**

Project Name: **Fishers Mill Apartments Renovation**

Contract Date:

Project Numbers:

CIDA No.: **190393.01**  
VHA No.: **2019-322-3**  
Contractor No.:

Issue Date:

ASI No.:

Distribution:	Discipline:	Company:	Attention:	Email:
X	Owner	Vancouver Housing Authority	Leah Greenwood	<a href="mailto:lgreenwood@vhausa.com">lgreenwood@vhausa.com</a>
X	Owner’s Rep.	Vancouver Housing Authority	Jim Davis	<a href="mailto:jdavis@vhausa.com">jdavis@vhausa.com</a>
X	Architect	CIDA, Inc.	Erik Winter	<a href="mailto:erikw@cidainc.com">erikw@cidainc.com</a>

**The Work shall be carried out by the Contractor in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. The instructions, clarifications, or revisions noted below are to be incorporated into the drawings and specifications. Only items noted are revised, all other items are to remain unchanged.**

**Prior to proceeding in accordance with these instructions, indicate your acceptance of these instructions for minor change(s) to the Work as consistent with the Contract Documents and return a signed and dated copy to the office of the Architect.**

Item No.:	Reference:	Description:
1.		
2.		

Attachments:

1.  
2.

Issued By: \_\_\_\_\_ Accepted By: \_\_\_\_\_  
(Printed Name and Signature) (Printed Name and Signature)  
**CIDA, Inc.** **Contractor**

Date: \_\_\_\_\_

END OF ARCHITECT’S SUPPLEMENTAL INSTRUCTION

**006346 – CONSTRUCTION CHANGE DIRECTIVE (CCD)**

From: **CIDA, Inc.** To:  
**15895 SW 72<sup>nd</sup> Ave., Suite 200**  
**Portland, Oregon 97224**

Project Name: **Fishers Mill Apartments Renovation** Contract Date:

Project Numbers:

CIDA No.: **190393.01**

Issue Date:

VHA No.: **2019-322-3**Contract For: **General Construction**

Contractor No.:

CCD No.:

Distribution:	Discipline:	Company:	Attention:	Email:
<input checked="" type="checkbox"/>	Owner	Vancouver Housing Authority	Leah Greenwood	<a href="mailto:lgreenwood@vhausa.com">lgreenwood@vhausa.com</a>
<input checked="" type="checkbox"/>	Owner's Rep.	Vancouver Housing Authority	Jim Davis	<a href="mailto:jdavis@vhausa.com">jdavis@vhausa.com</a>
<input checked="" type="checkbox"/>	Architect	CIDA, Inc.	Erik Winter	<a href="mailto:erikw@cidainc.com">erikw@cidainc.com</a>
<input checked="" type="checkbox"/>	Contractor			

**You are hereby directed to make the following change(s) in this Contract:**

1.

**Proposed Adjustments:**

1. The proposed basis of adjustment to the Contract Sum or Guaranteed Maximum Price is:

<input type="checkbox"/>	Lump Sum increase of \$ _____
<input type="checkbox"/>	Unit Price of \$ _____ per _____
<input type="checkbox"/>	As provided in Section 7.3.3 of AIA Document A201-2017 General Conditions of the Contract for Construction
<input type="checkbox"/>	As follows: _____

2. The Contract Time is proposed to:

<input type="checkbox"/>	Be Adjusted
<input type="checkbox"/>	Not Be Adjusted

3. The Proposed Adjustment to the Contract Time, if any, is:

<input type="checkbox"/>	An Increase of _____ days.
<input type="checkbox"/>	A Decrease of _____ days.

*When signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above. Submit final cost for Work involved and change in Contract Time, if any, for inclusion in a subsequent Change Order.*

*Contractor signature indicates agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this CCD.*

---

CIDA, Inc.**Architect**

15895 SW 72<sup>nd</sup> Ave., Suite 200  
Portland, Oregon 97224

---

Vancouver Housing Authority**Owner**

2500 Main Street  
Vancouver, WA 98660

---

**Contractor**

---

By: *(Signature)*

---

By: *(Signature)*

---

By: *(Signature)*

---

*(Printed Name)*

---

*(Printed Name)*

---

*(Printed Name)*

---

*(Date)*

---

*(Date)*

---

*(Date)*

---

Attachments:

- 1.
- 2.

**006353 – ARCHITECT’S PROPOSAL REQUEST (PR)**

From: **CIDA, Inc.**  
**15895 SW 72<sup>nd</sup> Ave, Suite 200**  
**Portland, Oregon 97224**

To:

Project Name: **Fishers Mill Apartments**  
**Renovation**

Estimated Final Contract  
Completion Date:

Project Numbers:

CIDA No.: **190393.01**

Notice to Proceed Date:

VHA No.: **2019-322-3**

Issue Date:

Contractor No.:

PR No.:

Please submit an itemized cost proposal for changes in the Contract Sum and Contract Time for proposed modifications to the Contract Documents described herein. Submit Contractor’s proposal within **ten (10) business days**, or notify the office of the Architect in writing in a timely manner of the date on which you anticipate submitting your proposal if later.

**NOTICE: This is not a Change Order, Construction Change Directive or a direction to proceed with the Work described within this Proposal Request.**

Title:

Description:

**Modify the Contract Documents to conform to this description and/or drawing(s) and/or specification sections indicated below:**

**1.**

**NOTE:** This document represents a brief synopsis; the General Contractor shall include all the related items to complete the intent of this request.

Attachments:

**1.**

---

END OF PROPOSAL REQUEST

**If you have any questions or comments regarding this document, please contact the office of the Architect in writing within three (3) business days of the date indicated on this document with any concerns prior to submitting.**

Requested by: **CIDA, Inc.**

---

(Printed Name)

---

Signature:

Cc: CIDA Project File

**006357 – CHANGE ORDER REQUEST (C.O.R.) PROPOSAL**

From:

To:

Project Name: **Fishers Mill Apartments  
Renovation**

Contract Date:

Project Numbers:

CIDA No.: **190393.01**VHA No.: **2019-322-3**

Contractor No.:

Change Order

Request No.:

Contract For: **General Construction**

Issue Date:

Distribution:	Discipline:	Company:	Attention:	Email:
<input checked="" type="checkbox"/>	Owner	Vancouver Housing Authority	Leah Greenwood	<a href="mailto:lgreenwood@vhausa.com">lgreenwood@vhausa.com</a>
<input checked="" type="checkbox"/>	Owner's Rep.	Vancouver Housing Authority	Jim Davis	<a href="mailto:jdavis@vhausa.com">jdavis@vhausa.com</a>
<input checked="" type="checkbox"/>	Architect	CIDA, Inc.	Erik Winter	<a href="mailto:erikw@cidainc.com">erikw@cidainc.com</a>
<input checked="" type="checkbox"/>	Contractor			

This Change Order Request (C.O.R.) contains an itemized quotation for changes in the Contract Sum and/or Contract Time in response to proposed modifications to the Contract Documents based on Proposal Request (PR) No.: \_\_\_\_\_.

Title:

Description:

**1.**

Attached supporting information from:

<input type="checkbox"/>	Supplier
<input type="checkbox"/>	Other:

Reason for Change: *(Provide detailed summary)***1.**

Does proposed change involve a change in Contract Sum?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	[Increase]	[Decrease]	\$ _____
Does proposed change involve a change in Contract Time?	<input type="checkbox"/> No	<input type="checkbox"/> Yes	[Increase]	[Decrease]	_____ days.

Attachments:

<input type="checkbox"/>	Proposed Worksheet Summary:	_____
<input type="checkbox"/>	Proposed Worksheet Detail(s):	_____

Signed by:

\_\_\_\_\_  
*Contractor (Printed Name)*\_\_\_\_\_  
*(Signature)*\_\_\_\_\_  
*Date*



**VANCOUVER**  
**HOUSING AUTHORITY**

# COVID-19 PROTOCOLS

# Coronaviruses and the Workplace

Coronaviruses are fairly common and don't typically affect humans. When they do, their effects are usually mild, as in the case of the common cold. However, deadlier variations have cropped up in recent years. Two examples of these evolved strains are the SARS virus of 2003 and the novel coronavirus, which was first seen in 2019. In both instances, the viruses ravaged populations they infected, illustrating why Vancouver Housing Authority and/or Contractor must stay alert to developing outbreaks.

It's the responsibility of every Vancouver Housing Authority and/or Contractor to protect employees from these and other illnesses in the workplace. Taking even small precautions could save an organization countless hours of lost productivity.

## Diagnosing a Coronavirus

More dangerous coronavirus strains elicit similar symptoms to the cold or flu (such as fever, cough, runny nose, sore throat, or headache), so identifying the virus can be difficult. Employees suffering with flu-like symptoms, especially if they recently traveled to a country experiencing a coronavirus outbreak, should call their doctor immediately. Doctors typically request initial phone calls, rather than visits, to properly prepare for a coronavirus patient.

## Precautions for the Workplace

Vancouver Housing Authority and/or Contractor should protect against coronaviruses much like they protect against the flu: Offer on-site flu shots, stock cleaning wipes and hand sanitizer, and educate employees on prevention methods. According to the Centers for Disease Control and Prevention, individuals should take the following precautions to avoid person-to-person spreading of a coronavirus:

- Avoid touching your eyes, nose or mouth with unwashed hands.
- Avoid contact with those who are sick.
- Wash your hands often with soap and water.
- Ensure social distancing with a minimum of 6 feet between someone else.

Unfortunately, there is no known vaccine for a human-contracted coronavirus, making precaution that much more critical.

## Avoiding Potential Discrimination

As with any workplace policy, Vancouver Housing Authority and/or Contractor should be wary of inadvertent discrimination when it comes to a coronavirus prevention policy (e.g., ordering employees' home when they seem sick). Just because an employee recently traveled to China and coughed in the elevator doesn't mean a Vancouver Housing Authority can send them home.

## Summary

Employee education is one of the best lines of defense for a workplace. General preventive health practices, like washing hands, can safeguard workers even when they're at home.

Remind employees to keep up their hygiene and share their knowledge of coronavirus symptoms so they know what to look out for. Together, you and your employees can stay safe, healthy and productive.

# COVID-19 Prevention Tips for Builders

Over the past few weeks, the United States has seen a growing number in COVID-19 cases. Washington State is currently ground zero for the outbreak. New knowledge, new regulations, and new efforts to treat and find a vaccine for the virus occur on an almost daily basis. So, how does all this effect the housing construction industry?

Due to the fact that it's difficult if not impossible to know about the health or exposures of whoever's coming and going to a jobsite, whether that jobsite be a new home construction lot or an existing home in need of maintenance, there are health risks to workers. Employees and Vancouver Housing Authority and/or Contractor are at further risk due to continued transmission concerns as workers travel from jobsite to jobsite.

## **To be as preventative as possible, here are tips**

- Stay home if they feel unwell, have a cough or a fever
- Cover their cough or sneeze with something other than their hand
- Avoid touching eyes, nose, and mouth
- Throw all tissues into designated trash can
- Refrain from sharing drinks and food
- Thoroughly wash hands with soap prior to eating and frequently throughout the day
- Post hygiene posters in common areas, job shacks, and portable toilets

## **More specific to construction and COVID-19:**

- Every day for each person on the job site, take temperature and observe for cough or breathing difficulty. Do not allow anybody with an above normal temperature, or presenting cough or difficulty breathing to remain on site.
- Provide soap, water, disposable hand towels on-site and encourage workers to wash hands regularly.
- Provide gloves, hand sanitizer, disinfecting wipes for all personnel arriving on-site
- Implement a "No hand-shaking policy"
- Require "social distancing"
- No meetings of more than 10 people
- Participants should keep at least 6 feet apart
- Discourage those of higher risk of severe illness from attending in-person meetings
- Conduct health checks, including temperature measurement and observation for cough or respiratory difficulty
- Reduce all non-essential business travel
- Conduct bid walks/inspections via video, such as Skype
- Remind crews not to share water bottles, cups, etc.
- Hold planning meetings, toolbox safety meetings via teleconference
- Provide time for employees to sanitize and wipe down power/hand tools/iPad/phones at least daily
- Weather permitting, conduct meetings outdoors

## ***Disinfect high touch shared areas including the following multiple times per day:***

- Bathroom facilities, including portable toilets multiples times per day.
- Shared tools, including power/hand tools, iPad, phones
- Shared scaffolding
- Rest areas

## ***Crew vehicles, especially:***

- Door handles
- Steering wheel and related components
- Gear or stick shift

March 25, 2020



**Additionally:**

- Do not permit contact with someone that has been infected with COVID-19
- Stagger shift hours between trades to prevent large gatherings on projects
- Educate employees on how to protect themselves and to prevent the spread
- Be mindful of home visits. If possible, communicate with clients via text, email, or phone
- Be mindful of your subs. Communication is very key. All employees and subs need to understand the severity. One crew member could spread it to the entire project.

# COVID-19 Protocols for Contractors

If you think you or someone around you have been exposed to laboratory-confirmed COVID-19, follow the steps below to monitor your health.

## **How do I know if I was exposed?**

You have likely been exposed if any of the following conditions have occurred:

- Living in the same household as a person diagnosed with COVID-19
- Caring for a person diagnosed with COVID-19
- Being within 6 feet of a person diagnosed with COVID-19 for 10 minutes or more
- Being in direct contact with secretions from a person diagnosed with COVID-19

## **What should I do if I am a close contact to someone with COVID-19?**

Assuming excellent hygiene practices, if you have been in close contact with a sick person with COVID-19, you are still considered to be at low risk for infection. You may continue to go to work, but you should monitor your health for 14-days and stay away from others if you become symptomatic (fever, cough, shortness of breath).

## **What should I do if I experience symptoms of COVID-19?**

If you get sick with fever, cough or shortness of breath, you should stay home and remain away from people.

If something puts you at higher risk of severe illness, such as you are over the age of 60, are pregnant, have a compromised immune system, or underlying medical conditions, you should contact your physician.

If you are not at higher risk of severe illness, but want medical advice, you may call your healthcare provider and tell them that you are exhibiting symptoms of COVID-19. Your healthcare provider will help you determine if you need to be evaluated in person.

There are currently no medications to treat COVID-19.

If you have a medical emergency and need to call 911, notify the dispatch personnel that you may have been exposed to COVID-19. If possible, put on a facemask before emergency medical services arrive.

# COVID-19 and OSHA Recordkeeping

**Q:** Must Vancouver Housing Authority and/or Contractor record cases of COVID-19 on their OSHA 300 Logs?

**A:** OSHA requires certain Vancouver Housing Authority or Contractor to record work-related injuries and illnesses that meet certain severity criteria on the OSHA 300 Log, as well as complete the OSHA Form 301 equivalent or [incident report form](#).

## Is COVID-19 Considered an “Illness” under OSHA’s Recordkeeping Rules?

OSHA’s recordkeeping rules define a workplace illness as “an abnormal condition or disorder.” Workplace illnesses include “both acute and chronic illnesses, such as, but not limited to, a skin disease, respiratory disorder, or poisoning.” Despite this broad definition, OSHA has essentially excluded from coverage cases of the common cold or the seasonal flu. Nonetheless, OSHA determined that COVID-19 should *not* be excluded from coverage. Thus, OSHA considers COVID-19 an “illness” under the rule. However, **OSHA has stated that only confirmed cases of COVID-19 should be considered an illness under the rule.** Therefore, if an employee simply comes to work with symptoms consistent with COVID-19 (but not a confirmed diagnosis), recordability would not be required at that time.

## When is a COVID-19 Case Recordable?

If an employee has a confirmed case of COVID-19, the Vancouver Housing Authority and/or Contractors must assess whether the case was “work-related,” and, if so, whether it met the rule’s additional recordability criteria (i.e., did it result in a fatality, days away from work, restricted duty, or medical treatment beyond first aid?). Given current protocols for treating COVID-19, it is likely the additional severity criteria will be met for any confirmed case, as affected persons are instructed to self-quarantine and stay home. The primary issue for Vancouver Housing Authority then becomes whether a particular illness is “work-related.”

A particular illness is work-related if an event or exposure in the work environment either caused or contributed to the resulting condition or significantly aggravated a pre-existing illness. Work-relatedness is presumed for illnesses that result from events or exposures in the work environment, unless certain exceptions apply. One of those exceptions is that the illness involves signs or symptoms that surface at work but result solely from a non-work-related event or exposure that occurs outside of the work environment. Thus, if an employee develops COVID-19 solely from an exposure outside of the work environment, it would not be work-related, and thus not recordable.

The Vancouver Housing Authority’s and/or Contractor’s assessment should consider the work environment itself, the type of work performed, risk of person-to-person transmission given the work environment, and other factors such as community spread. Healthcare work environments, where job activities are more likely to result in person-to-person exposure, would present a more likely scenario of work-relatedness than non-healthcare settings. Because each work environment is different, Vancouver Housing Authority and/or Contractor must conduct an individualized assessment when a confirmed case of COVID-19 presents.

# DRAFT AIA® Document A101™ – 2017

## *Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum*

**AGREEMENT** made as of the « » day of « » in the year « »  
(In words, indicate day, month and year.)

**BETWEEN** the Owner:  
(Name, legal status, address and other information)

Vancouver Housing Authority  
2500 Main Street  
Vancouver, Washington 98660

and the Contractor:  
(Name, legal status, address and other information)

« » « »  
« »  
« »  
« »

for the following Project:  
(Name, location and detailed description)

Project Number and Name: 2019-322-3;  
Fishers Mill Apartments Renovation  
Project Location: 1000 SE 160<sup>th</sup> Avenue, Vancouver, Washington 98683  
Project Description: Project includes roof and select window (sliding door assemblies) repair and replacement as identified in the Contract Documents at the following Buildings:

1. Building C
2. Building D
3. Building E
4. Building F
5. Building G
6. Building H
7. Building J
8. Building K.

The Architect:  
(Name, legal status, address and other information)

CIDA, Inc.  
15895 SW 72<sup>nd</sup> Avenue, Suite 200  
Portland, Oregon 97224

The Owner and Contractor agree as follows.

**ADDITIONS AND DELETIONS:** The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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## TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS

## EXHIBIT A INSURANCE AND BONDS

### ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

### ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

*(Check one of the following boxes.)*

- ☐ [ « » ] The date of this Agreement.
- ☒ [ «X» ] A date set forth in a notice to proceed issued by the Owner.
- ☐ [ « » ] Established as follows:  
*(Insert a date or a means to determine the date of commencement of the Work.)*

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

#### § 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

*(Check one of the following boxes and complete the necessary information.)*

- ☒ [ «X» ] Not later than ( ) calendar days from the date of commencement of the Work.

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
None at time of this Agreement	N/A

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

#### ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » (\$ « » ), subject to additions and deductions as provided in the Contract Documents.

#### § 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
1. Deductive Alternate No. 01: a. All Work at Building 'C'.	
2. Deductive Alternate No. 02: a. All Work at Building 'D'.	
3. Deductive Alternate No. 03: a. All Work at Building 'E'.	
4. Deductive Alternate No. 04: a. All Work at Building 'K'.	

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement. (Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
None at time of this Agreement	N/A	N/A

§ 4.3 Allowances, if any, included in the Contract Sum:  
(Identify each allowance.)

Item	Price
None at time of this Agreement	N/A

#### § 4.4 Unit prices, if any:

(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
Unit Price No. 01: Plywood Sheathing	Square Foot	
Unit Price No. 02: Sliding Glass Door	Each	

#### § 4.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

Two Hundred and Fifty Dollars and no cents (\$250.00) per calendar day.

**§ 4.6 Other:**

*(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)*

None at time of this Agreement

**ARTICLE 5 PAYMENTS**

**§ 5.1 Progress Payments**

**§ 5.1.1** Based upon Applications for Payment submitted to the Architect and Owner by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

**§ 5.1.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

**§ 5.1.3** Provided that an uncontested Application for Payment is received by the Architect and Owner not later than the last day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the last day of the following month. If an Application for Payment is received by the Architect and Owner after the application date fixed above, payment of the amount certified shall be made by the Owner not later than thirty (30) days after the Architect and Owner receives the Application for Payment.

*(Federal, state or local laws may require payment within a certain period of time.)*

**§ 5.1.4** Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect and Owner may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

**§ 5.1.5** Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

**§ 5.1.6** In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

**§ 5.1.6.1** The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

**§ 5.1.6.2** The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

**§ 5.1.7 Retainage**

**§ 5.1.7.1** For each progress payment made prior to Substantial Completion of the Work, the Owner shall withhold the following amount, as retainage, from the payment otherwise due:

*(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)*

Five percent (5%).

**§ 5.1.7.1.1** The following items are not subject to retainage:

*(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)*

**Insurance and Performance and Payment Bonds**

**§ 5.1.7.2** Reduction or limitation of retainage, if any, shall be as follows:

*(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)*

**No reduction(s) or limitation(s)**

**§ 5.1.7.3** Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

*(Insert any other conditions for release of retainage upon Substantial Completion.)*

Retainage shall be billed at completion of the Work as a final Application for Payment which shall be subject to Prevailing Wage Requirements including but not limited to retainage release approval from the Employment Security Division, Department of Revenue, and Department of Labor and Industries.

**§ 5.1.8** If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

**§ 5.1.9** Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

**§ 5.2 Final Payment**

**§ 5.2.1** Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment;
- .2 a final Certificate for Payment has been issued by the Architect; and
- .3 verification of approved affidavits of wages paid provided by the Contractor to the Owner.

**§ 5.2.2** The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment.

**§ 5.3 Interest**

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

*(Insert rate of interest agreed upon, if any.)*

5% Five percent simple interest

**ARTICLE 6 DISPUTE RESOLUTION**

**§ 6.1 Initial Decision Maker**

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.



## § 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2017

☒ Litigation in a court of competent jurisdiction

☐ Other (Specify)

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

## ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner’s convenience.)

None at time of this Agreement

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

## ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:

(Name, address, email address, and other information)

Jim Davis, Asset Management Project Coordinator  
Vancouver Housing Authority  
2500 Main Street  
Vancouver, Washington 98660  
(360) 993-9512  
jdavis@vhausa.com

§ 8.3 The Contractor’s representative:

(Name, address, email address, and other information)

§ 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten days’ prior notice to the other party.

## § 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Other provisions:

None at time of this Agreement

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 9.1** This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 Attachment A, Insurance Requirements
- .3 Attachment B–Housing Trust Fund–General Terms and Conditions
- .4 AIA Document A201™–2017, General Conditions of the Contract for Construction
- .5 Drawings

Number	Title	Date
--------	-------	------

**Building C:**

CS1	Cover Sheet	
A1.1	Floor Plans	
A1.2	Roof Plan	
A2.1	Exterior Elevations	
A3.1	Details - Doors	
A3.2	Details - Doors	
A4.1	Details - Roof	
A4.2	Details - Roof	
A4.3	Details - Roof	

**Building D:**

CS1	Cover Sheet	
A1.1	Floor Plans	
A1.2	Roof Plan	
A2.1	Exterior Elevations	
A3.1	Details - Doors	
A3.2	Details - Doors	
A4.1	Details - Roof	
A4.2	Details - Roof	
A4.3	Details - Roof	

**Building E:**

CS1	Cover Sheet	
A1.1	Floor Plans	
A1.2	Roof Plan	
A2.1	Exterior Elevations	
A3.1	Details - Doors	
A3.2	Details - Doors	
A4.1	Details - Roof	
A4.2	Details - Roof	
A4.3	Details - Roof	

**Building F:**

CS1	Cover Sheet	
A1.1	Floor Plans	
A1.2	Roof Plan	
A2.1	Exterior Elevations	
A3.1	Details - Doors	
A3.2	Details - Doors	
A4.1	Details - Roof	
A4.2	Details - Roof	
A4.3	Details - Roof	

**Building G:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof
A4.4	Details - Roof

**Building H:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

**Building J:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

**Building K:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

. 6 Specifications

Section	Title	Date	Pages
000101	Cover		
000102	Conceptual Artistic Rendering		
000103	Consultants		
000110	Table of Contents		
<b><u>DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS</u></b>			
001116	Invitation to Bid (VHA Document)		
002113	Instruction to Bidders (VHA Document)		
002113.1	Attachment A – Insurance Requirements (VHA Document)		
002113.2	Attachment B – Housing Trust Fund – General Terms and Conditions (VHA Document)		
003119	Existing Conditions Information (VHA Document)		
<b><u>BIDDING FORMS</u></b>			
004113	Bid Form – Stipulated Sum – Single-Prime Contract (VHA Document)		
004313	Bid Bond – Form (VHA Document)		
004313.1	Suspension and Debarment Compliance Certificate – Form (VHA Document)		
004519	Non-Collusion Affidavit (VHA Document)		
<b><u>PROJECT FORMS</u></b>			
005000	Contracting Forms and Supplements		
005500	Notice to Proceed (NTP) - Form		
006000	Project Forms		
006113	Performance and Payment Bond – Form (VHA Document)		
006113.1	Section 3 Monthly Hiring Summary Report – Form (VHA Document)		
006113.2	Section 3 New Hires – Monthly Compliance Report – Form (VHA Document)		
006113.3	Section 3 Self Certification Form (VHA Document)		
006313	Request for Information (RFI) – Form		
006325	Substitution Request – Form		
006333	Architect’s Supplemental Instructions (ASI) – Form		
006346	Construction Change Directive (CCD) – Form		
006353	Architect’s Proposal Request (PR) – Form		
006357	Change Order Request (C.O.R.) Proposal - Form		
<b><u>STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR</u></b>			
	AIA Document A101, 2017 Edition		
<b><u>GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION</u></b>			
	AIA Document A201, 2017 Edition		
<b><u>INSTRUCTIONS TO BIDDERS</u></b>			
	AIA Document A701, 2018 Edition		
<b><u>DIVISION 01 GENERAL CONDITIONS</u></b>			
011000	Summary		
012200	Unit Prices		
012300	Alternates		
012500	Substitution Procedures		

012600	Contract Modification Procedures
012900	Payment Procedures
013100	Project Management and Coordination
013200	Construction Progress Documentation
013233	Photographic Documentation
013300	Submittal Procedures
014000	Quality Requirements
014020	Fenestration System Testing
014200	References
015000	Temporary Facilities and Controls
016000	Product Requirements
016550	Product Delivery, Storage, and Handling Requirements

017300	Execution
017400	Cleaning
017419	Construction Waste Management and Disposal
017700	Closeout Procedures
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#### **.6 Addenda, if any:**

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

#### **.7 Other documents, if any, listed below:**

*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders,*

sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

.1 Prevailing Wage Rates, date TBD

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

« »« »

(Printed name and title)

CONTRACTOR (Signature)

« »« »

(Printed name and title)

# DRAFT AIA® Document A201™ – 2017

## General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Solicitation No. 2019-322-3  
Fishers Mill Apartments Renovation

THE OWNER:

(Name, legal status and address)

Vancouver Housing Authority  
2500 Main Street  
Vancouver, Washington 98660

THE ARCHITECT:

(Name, legal status and address)

CIDA, Inc.  
15895 SW 72<sup>nd</sup> Avenue, Suite 200  
Portland, Oregon 97224

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## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 Basic Definitions**

#### **§ 1.1.1 The Contract Documents**

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

#### **§ 1.1.2 The Contract**

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

#### **§ 1.1.3 The Work**

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

#### **§ 1.1.4 The Project**

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

#### **§ 1.1.5 The Drawings**

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

#### **§ 1.1.6 The Specifications**

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

#### **§ 1.1.7 Instruments of Service**

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

#### **§ 1.1.8 Initial Decision Maker**

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

### **§ 1.2 Correlation and Intent of the Contract Documents**

**§ 1.2.1** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

### § 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

### § 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

### § 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Section 1.7, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

### § 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

### § 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form.

## ARTICLE 2 OWNER

### § 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.



§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

## § 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

## § 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

**§ 2.3.6** Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

#### **§ 2.4 Owner's Right to Stop the Work**

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

#### **§ 2.5 Owner's Right to Carry Out the Work**

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

### **ARTICLE 3 CONTRACTOR**

#### **§ 3.1 General**

**§ 3.1.1** The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

**§ 3.1.2** The Contractor shall perform the Work in accordance with the Contract Documents.

**§ 3.1.3** The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

#### **§ 3.2 Review of Contract Documents and Field Conditions by Contractor**

**§ 3.2.1** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

**§ 3.2.2** Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

**§ 3.2.3** The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall

promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

**§ 3.2.4** If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

### **§ 3.3 Supervision and Construction Procedures**

**§ 3.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

**§ 3.3.2** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

**§ 3.3.3** The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

### **§ 3.4 Labor and Materials**

**§ 3.4.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

**§ 3.4.2** Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

**§ 3.4.3** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

### **§ 3.5 Warranty**

**§ 3.5.1** The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

### § 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

### § 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

### § 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

### § 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

### § 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

### § 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

### § 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

### § 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in



the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

**§ 3.12.5** The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, 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.

**§ 3.12.6** By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

**§ 3.12.7** The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

**§ 3.12.8** The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

**§ 3.12.9** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

**§ 3.12.10** The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

**§ 3.12.10.1** If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

**§ 3.12.10.2** If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

### § 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

### § 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

### § 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

### § 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

### § 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

### § 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

## ARTICLE 4 ARCHITECT

### § 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

### § 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

### § 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the



obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

### § 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

### § 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

### § 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

### § 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

## § 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

## § 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

## § 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

## § 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits

covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

**§ 7.3.9** Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

**§ 7.3.10** When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

#### **§ 7.4 Minor Changes in the Work**

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

### **ARTICLE 8 TIME**

#### **§ 8.1 Definitions**

**§ 8.1.1** Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

**§ 8.1.2** The date of commencement of the Work is the date established in the Agreement.

**§ 8.1.3** The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

**§ 8.1.4** The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

#### **§ 8.2 Progress and Completion**

**§ 8.2.1** Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

**§ 8.2.2** The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

**§ 8.2.3** The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

#### **§ 8.3 Delays and Extensions of Time**

**§ 8.3.1** If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

**§ 8.3.2** Claims relating to time shall be made in accordance with applicable provisions of Article 15.



§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

### § 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

### § 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

### § 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in

Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

**§ 9.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

## **§ 9.5 Decisions to Withhold Certification**

**§ 9.5.1** The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

**§ 9.5.2** When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

**§ 9.5.3** When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

**§ 9.5.4** If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

## **§ 9.6 Progress Payments**

**§ 9.6.1** After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

**§ 9.6.2** The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

## § 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

## § 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.



**§ 9.8.4** When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

**§ 9.8.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

## **§ 9.9 Partial Occupancy or Use**

**§ 9.9.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

**§ 9.9.2** Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**§ 9.9.3** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

## **§ 9.10 Final Completion and Final Payment**

**§ 9.10.1** Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

**§ 9.10.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

### § 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

**§ 10.2.6** The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

**§ 10.2.7** The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

**§ 10.2.8 Injury or Damage to Person or Property**

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

**§ 10.3 Hazardous Materials and Substances**

**§ 10.3.1** The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

**§ 10.3.2** Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

**§ 10.3.3** To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

**§ 10.3.4** The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

**§ 10.3.5** The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

**§ 10.3.6** If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

## § 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

## ARTICLE 11 INSURANCE AND BONDS

### § 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 **Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

### § 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 **Failure to Purchase Required Property Insurance.** If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 **Notice of Cancellation or Expiration of Owner's Required Property Insurance.** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall



be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

### **§ 11.3 Waivers of Subrogation**

**§ 11.3.1** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

**§ 11.3.2** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

### **§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance**

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

### **§ 11.5 Adjustment and Settlement of Insured Loss**

**§ 11.5.1** A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

**§ 11.5.2** Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

## **ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

### **§ 12.1 Uncovering of Work**

**§ 12.1.1** If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

**§ 12.1.2** If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such

Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

## **§ 12.2 Correction of Work**

### **§ 12.2.1 Before Substantial Completion**

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

### **§ 12.2.2 After Substantial Completion**

**§ 12.2.2.1** In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

**§ 12.2.2.2** The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

**§ 12.2.2.3** The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

**§ 12.2.3** The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

**§ 12.2.4** The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

**§ 12.2.5** Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

## **§ 12.3 Acceptance of Nonconforming Work**

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## **ARTICLE 13 MISCELLANEOUS PROVISIONS**

### **§ 13.1 Governing Law**

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

## **§ 13.2 Successors and Assigns**

**§ 13.2.1** The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

**§ 13.2.2** The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

## **§ 13.3 Rights and Remedies**

**§ 13.3.1** Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

**§ 13.3.2** No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

## **§ 13.4 Tests and Inspections**

**§ 13.4.1** Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

**§ 13.4.2** If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

**§ 13.4.3** If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

**§ 13.4.4** Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

**§ 13.4.5** If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

**§ 13.4.6** Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

## **§ 13.5 Interest**

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

## **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **§ 14.1 Termination by the Contractor**

**§ 14.1.1** The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3** Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

**§ 14.1.2** The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

**§ 14.1.3** If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

**§ 14.1.4** If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

### **§ 14.2 Termination by the Owner for Cause**

**§ 14.2.1** The Owner may terminate the Contract if the Contractor

- .1** repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4** otherwise is guilty of substantial breach of a provision of the Contract Documents.

**§ 14.2.2** When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2** Accept assignment of subcontracts pursuant to Section 5.4; and
- .3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

**§ 14.2.3** When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

**§ 14.2.4** If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case



may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

#### **§ 14.3 Suspension by the Owner for Convenience**

**§ 14.3.1** The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

**§ 14.3.2** The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

#### **§ 14.4 Termination by the Owner for Convenience**

**§ 14.4.1** The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

**§ 14.4.2** Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

**§ 14.4.3** In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

### **ARTICLE 15 CLAIMS AND DISPUTES**

#### **§ 15.1 Claims**

##### **§ 15.1.1 Definition**

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

##### **§ 15.1.2 Time Limits on Claims**

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

##### **§ 15.1.3 Notice of Claims**

**§ 15.1.3.1** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

**§ 15.1.3.2** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

#### **§ 15.1.4 Continuing Contract Performance**

**§ 15.1.4.1** Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

**§ 15.1.4.2** The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

#### **§ 15.1.5 Claims for Additional Cost**

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

#### **§ 15.1.6 Claims for Additional Time**

**§ 15.1.6.1** If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

**§ 15.1.6.2** If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

#### **§ 15.1.7 Waiver of Claims for Consequential Damages**

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

#### **§ 15.2 Initial Decision**

**§ 15.2.1** Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

**§ 15.2.2** The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

**§ 15.2.3** In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision

Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

**§ 15.2.4** If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

**§ 15.2.5** The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

**§ 15.2.6** Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

**§ 15.2.6.1** Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

**§ 15.2.7** In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

**§ 15.2.8** If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

### **§ 15.3 Mediation**

**§ 15.3.1** Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

**§ 15.3.2** The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

**§ 15.3.3** Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

**§ 15.3.4** The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

## § 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

## § 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

# DRAFT AIA® Document A701™ – 2018

## Instructions to Bidders

for the following Project:

(Name, location, and detailed description)

«2019-322-03 Fishers Mill Apartments Renovation»

«»

«»

### THE OWNER:

(Name, legal status, address, and other information)

«Vancouver Housing Authority»« »

«2500 Main Street»

«Vancouver, Washington 98660»

« »

### THE ARCHITECT:

(Name, legal status, address, and other information)

CIDA, Inc.

15895 SW 72<sup>nd</sup> Avenue, Suite 200

Portland, Oregon 97224

« »

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**ADDITIONS AND DELETIONS:** The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™-2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

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## ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

## ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

## ARTICLE 3 BIDDING DOCUMENTS

### § 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

*(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)*

«Online access to electronic (PDF) documents will be provided to all registered bidders and suppliers.»

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper



documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

### § 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Owner and Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Owner and Architect at least seven days prior to the date for receipt of Bids. *(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)*

«Submit requests via email.»

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

### § 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

#### § 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Owner and Architect at least ten days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

### § 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

*(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)*

«Online access to electronic (PDF) Addenda will be provided through Owner's website.»

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

## ARTICLE 4 BIDDING PROCEDURES

### § 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

### § 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:

*(Insert the form and amount of bid security.)*

«Bid Bond form bound into Project Manual in the amount described in Section 001116 – Invitation to Bid.»

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.



§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning «60» days after the opening of Bids, withdraw its Bid and request the return of its bid security.

### § 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

*(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)*

«Paper copy prepared and delivered as described in these Bidding documents.»

§ 4.3.2 Paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

### § 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Owner and Architect of such error within two days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located, requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Owner and Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be attended to as follows:

*(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)*

«Owner will retain bid security for duration period of 60 days after opening of bids.»

## ARTICLE 5 CONSIDERATION OF BIDS

### § 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

### § 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

### **§ 5.3 Acceptance of Bid (Award)**

**§ 5.3.1** It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

**§ 5.3.2** Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

## **ARTICLE 6 POST-BID INFORMATION**

### **§ 6.1 Contractor's Qualification Statement**

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

### **§ 6.2 Owner's Financial Capability**

A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids. Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

### **§ 6.3 Submittals**

**§ 6.3.1** After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

**§ 6.3.2** The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

**§ 6.3.3** Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

**§ 6.3.4** Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

## **ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND**

### **§ 7.1 Bond Requirements**

**§ 7.1.1** If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

**§ 7.1.2** If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

**§ 7.1.3** The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

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## § 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

## ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.

(Insert the complete AIA Document number, including year, and Document title.)

<< >>

- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.

(Insert the complete AIA Document number, including year, and Document title.)

<< >>

- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.

(Insert the complete AIA Document number, including year, and Document title.)

<< >>

- .4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

(Insert the date of the E203-2013.)

<< >>

- .5 Drawings

Number	Title	Date
<b><u>Building C:</u></b>		
CS1	Cover Sheet	
A1.1	Floor Plans	
A1.2	Roof Plan	
A2.1	Exterior Elevations	
A3.1	Details - Doors	
A3.2	Details - Doors	
A4.1	Details - Roof	
A4.2	Details - Roof	
A4.3	Details - Roof	

**Building D:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

**Building E:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

**Building F:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

**Building G:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof
A4.4	Details - Roof

**Building H:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

**Building J:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

**Building K:**

CS1	Cover Sheet
A1.1	Floor Plans
A1.2	Roof Plan
A2.1	Exterior Elevations
A3.1	Details - Doors
A3.2	Details - Doors
A4.1	Details - Roof
A4.2	Details - Roof
A4.3	Details - Roof

**.6 Specifications**

Section	Title	Date	Pages
000101	Cover		
000102	Conceptual Artistic Rendering		
000103	Consultants		
000110	Table of Contents		
<b><u>DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS</u></b>			
001116	Invitation to Bid (VHA Document)		
002113	Instruction to Bidders (VHA Document)		
002113.1	Attachment A – Insurance Requirements (VHA Document)		
002113.2	Attachment B – Housing Trust Fund – General Terms and Conditions (VHA Document)		
003119	Existing Conditions Information (VHA Document)		
<b><u>BIDDING FORMS</u></b>			
004113	Bid Form – Stipulated Sum – Single-Prime Contract (VHA Document)		
004313	Bid Bond – Form (VHA Document)		
004313.1	Suspension and Debarment Compliance		

004519	Certificate – Form (VHA Document) Non-Collusion Affidavit (VHA Document)		
<b><u>PROJECT FORMS</u></b>			
005000	Contracting Forms and Supplements		
005500	Notice to Proceed (NTP) - Form		
006000	Project Forms		
006113	Performance and Payment Bond – Form (VHA Document)		
006113.1	Section 3 Monthly Hiring Summary Report – Form (VHA Document)		
006113.2	Section 3 New Hires – Monthly Compliance Report – Form (VHA Document)		
006113.3	Section 3 Self Certification Form (VHA Document)		
006313	Request for Information (RFI) – Form		
006325	Substitution Request – Form		
006333	Architect’s Supplemental Instructions (ASI) – Form		
006346	Construction Change Directive (CCD) – Form		
006353	Architect’s Proposal Request (PR) – Form		
006357	Change Order Request (C.O.R.) Proposal - Form		
<b><u>DIVISION 01 GENERAL CONDITIONS</u></b>			
011000	Summary		
012200	Unit Prices		
012300	Alternates		
012500	Substitution Procedures		
012600	Contract Modification Procedures		
012900	Payment Procedures		
013100	Project Management and Coordination		
013200	Construction Progress Documentation		
013233	Photographic Documentation		
013300	Submittal Procedures		
014000	Quality Requirements		
014020	Fenestration System Testing		
014200	References		
015000	Temporary Facilities and Controls		

016000	Product Requirements		
016550	Product Delivery, Storage, and Handling Requirements		
017300	Execution		
017400	Cleaning		
017419	Construction Waste Management and Disposal		
017700	Closeout Procedures		
017823	Operation and Maintenance Data		
017839	Project Record Documents		
<b><u>DIVISION 02 EXISTING CONDITIONS</u></b>			
024119	Selective Structure Demolition		
<b><u>DIVISION 03 CONCRETE</u> Through <u>DIVISION 05 METALS</u> – Not Used</b>			
<b><u>DIVISION 06 WOOD, PLASTICS, AND COMPOSITES</u></b>			
061000	Rough Carpentry		
061600	Sheathing		
062013	Exterior Finish Carpentry		
062023	Interior Finish Carpentry		
<b><u>DIVISION 07 THERMAL AND MOISTURE PROTECTION</u></b>			
070150	Preparation For Re-Roofing		
072500	Weather Barriers		
073113	Asphalt Shingles		
074646	Fiber-Cement Siding		
076200	Sheet Metal Flashing and Trim		
079200	Joint Sealants		
<b><u>DIVISION 08 OPENINGS</u></b>			
083216	Vinyl Sliding Patio Doors		
<b><u>DIVISION 09 FINISHES</u></b>			
099113	Exterior Painting		
<b><u>DIVISION 10 SPECIALTIES</u> Through <u>DIVISION 33 UTILITIES</u> – Not Used</b>			

.7 Addenda:

Number	Date	Pages

## **SECTION 011000 - SUMMARY**

### **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. Phased construction.
4. Work by Owner.
5. Excluded from Architect and its Consultant's Scope of Services.
6. Work under separate contracts.
7. Owner-furnished/Contractor-installed (OFICI) products.
8. Regulatory requirements.
9. Contractor's use of site and premises.
10. Occupied structures.
11. Work restrictions.
12. Start of Work.
13. Completion of Work.
14. Interpretation of Contract Documents.
15. Oral Modifications (will not be permitted).
16. Specification and Drawing conventions.

- B. Related Requirements:

1. Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
2. Division 01, Section "Deferred Submittals".
3. Division 01, Section "Delegated Design Requirements".

#### **1.3 PROJECT INFORMATION**

- A. Project Identification: Fishers Mill Apartments Renovation  
1000 SE 160<sup>th</sup> Avenue | Vancouver, Washington | 98683



- B. Owner: Vancouver Housing Authority  
2500 Main Street | Vancouver, Washington 98660
- C. Owner's Representative: Vancouver Housing Authority  
2500 Main Street | Vancouver, Washington 98660  
Contact: Jim Davis, Asset Management Project Coordinator  
P: (360) 993-9512 | E: jdavis@vhausa.com
- D. Architect: CIDA, Inc.  
15895 SW 72<sup>nd</sup> Avenue, Suite 200 | Portland, Oregon 97224  
Contact: Erik Winter, Project Architect  
P: (503) 226-1285 | E: erikw@cidainc.com
- E. Architect's Consultants: Architect has retained the following design professionals, who have prepared designated portions of the Contract Documents:
1. Structural Engineering:  
CIDA, Inc.  
15895 SW 72<sup>nd</sup> Avenue, Suite 200  
Portland, Oregon 97224  
Contact: Curtis Gagner
- F. Contractor: The following General Contractor has been engaged as Contractor for this Project.
1. To Be Determined.
- G. General Contractor Design Professional Consultants: The General Contractor will or shall retain the following delegated design professional entities who have prepared designated portions of the Project's Contract Documents (under separate cover):
1. None at this time.

#### 1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
1. The Work to be performed includes all labor, tools and equipment necessary to furnish and install all materials and equipment shown on the Contract drawings and specification documents and described herein, to provide complete and operating systems to the extent specified and shown on the Contract Documents. The Contractor shall furnish all equipment, material and supplies as required by the Contract Documents. The exception is where Contract Documents specifically indicates:
    - a. Owner Furnished and Owner Installed (OFOI), whereupon the owner shall furnish and install for a complete installation.
    - b. Owner Furnished and Contractor Installed (OFICI), whereupon the Owner shall furnish and the Contractor shall install as required for a complete installation.
  2. Brief Project Description: In brief and without force and effect on the requirements of the Contract drawings and specification documents, the Project consists of the following:

- a. General: The Work includes the exterior renovation of eight (8) existing two-story, wood framed multi-family apartment buildings as indicated in the Contract Documents.
    - 1) Building C.
    - 2) Building D.
    - 3) Building E.
    - 4) Building F.
    - 5) Building G.
    - 6) Building H.
    - 7) Building J.
    - 8) Building K.
  - b. The Project includes the following exterior Work:
    - 1) Removal of existing roof shingles, underlayment, flashing and damaged roof sheathing, as well as removal of existing gutters and downspouts.
    - 2) Removal of existing damaged eave, barge and fascia trim, where damaged.
    - 3) Removal of existing fiber cement cladding, trim and flashing elements, where required, around existing sliding door openings and where required to tie new roofing system into existing building envelope assemblies.
    - 4) Removal of existing aluminum sliding door assemblies dwelling unit patios (first floor) and decks (second floors).
    - 5) Installation of new roof sheathing, where existing roof sheathing is determined to be damaged.
    - 6) Installation of new asphalt shingle roofing, underlayment, flashing and venting assembly components.
    - 7) Installation of new gutters and downspouts, including new connections to existing below grade drainage (below grade drainage connection points provided by others).
    - 8) Installation new eave, barge and fascia trim, where existing damaged components require replacement.
    - 9) Installation of new vinyl sliding patio and deck door assemblies.
    - 10) Installation of new fiber cement trim and weather barrier at sliding door locations.
    - 11) Exterior paint, including all surface preparation, repair, primer and base coats.
  - c. The Project includes the following interior Work:
    - 1) Patching and repairing existing interior unit finishes as indicated in the Contract Drawings.
3. “Deferred” and “Design-Build” systems and/or components known at this time are indicated on the Contract drawing documents.

**B. Type of Contract:**

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

**1.5 PHASED CONSTRUCTION**

- A. The Work shall be conducted in a single phase of construction.

**1.6 WORK BY OWNER**

- A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.
- B. Concurrent Work: Owner will perform the following operations or activities during the Contractor's construction process and activities for this Project. Those operations or activities will be conducted simultaneously with Work under this Contract.
  - 1. Owner shall perform the listed services in some fashion by Owner's own forces or by others that the Owner has elected to pursue. Refer to this specification Section, Part 1.7 "Excluded from the Architect and its Consultants Scope of Services" for all items not being performed by the Architect and its Consultants. The Owner, or others contracted by the Owner, will be selecting specific interior products, finish materials and associated color selections that are briefly expressed in of this specification section, Part 1.7.

**1.7 EXCLUDED FROM THE ARCHITECT AND ITS CONSULTANTS' SCOPE OF SERVICES**

- A. Excluded from both the Architect and its Consultants' scope of services for this Project consists of, but is not necessarily limited to, the following:
  - 1. Owner Contracted Consultant(s): Coordination with Owner contracted consultants beyond coordination of design intent for this Project, is excluded.
  - 2. "Design-Build" and/or "Deferred Submittals": All Work indicated on the Contract drawings or within the Project Manual specification documents described as "Design-Build" and/or "Deferred Submittals", is excluded.
  - 3. Unknown Owner Contracted Consultant(s): Coordination with any unknown Owner contracted consultant(s) that are not indicated in Division 00, Section "Consultants", is excluded.
  - 4. Permanent Signage: Permanent interior, exterior and site signage for the Project, is excluded.
    - a. Signage that is indicated on the Contract drawings or specification documents (other than code required signage) shall be for 'design intent' purposes only, in order to comply with local Authorities Having Jurisdiction (AHJ) and building code requirements for the purpose of securing building permit issuance. The final signage design and selection shall be by the Owner.
  - 5. Site improvements, including below grade drainage improvements being performed by Owner's consultants, is excluded.
  - 6. Mechanical, Electrical, and Plumbing Work is excluded.
  - 7. Traffic coating improvements and/or repairs, is excluded.

- B. All scope of services that are excluded from the Architect and its Consultants' scope of services that have not been selected or documented by the design team will not be reviewed during construction or as part of the Contractor's "Punch List" during Substantial Completion or Final Closeout.

#### 1.8 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying Work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.
  - 1. The Contractor shall be responsible for coordinating operations with Work performed under separate contracts with the Owner.
  - 2. Products furnished by Owner and installed by Owner are identified as OFOI (Owner Furnished, Owner Installed).
  - 3. Products furnished by Owner and installed by Contractor are identified as OFCI (Owner Furnished, Contractor Installed).
  - 4. Provide access to site and coordinate work according to the General Conditions of the Contract.
- B. Contractor recognizes that Owner is entitled, under the Contract Documents, to perform Work on site during the course of Contractor's performance, whether by Owner's employees, Owner's Consultants, separate contractors or services provided by the Architect and its Consultant.

#### 1.9 OWNER-FURNISHED/CONTRACTOR-INSTALLED (OFCI) PRODUCTS

- A. Owner's Responsibilities: None at this time.
- B. Contractor's Responsibilities: None at this time.
- C. Owner-Furnished/Contractor-Installed (OFCI) Products:
  - 1. None at this time.

#### 1.10 REGULATORY REQUIREMENTS

- A. Refer to the Contract drawings and specifications for the building code and other codes that are referenced for this Project.
- B. Contractor shall make arrangements with Authorities Having Jurisdiction (AHJ) for use of public property for construction purposes and pay all fees required for such use.

#### 1.11 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Unrestricted Use of Site: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project. Confine operations of

work to areas within contract limits indicated. Do not disturb portions of the site beyond areas in which work is indicated.

- B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
  - 1. Limits on Use of Site: Confine construction operations areas of Work indicated in the Contract Documents.
  - 2. Driveways, Walkways, and Entrances: Keep driveways carports, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, residents, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.
- D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.
- E. Contractor is responsible for necessary cleaning and repair of adjacent roads and drives resulting from Contractor's operations.

#### 1.12 OCCUPIED STRUCTURES

- A. Full Owner Occupancy: Owner will occupy site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
- B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
- C. The Work includes repairs to units and structure that will be occupied by and open to the tenants during construction. While performing the Work described within the Contract Documents, the Contractor shall, at all times, adhere to the following requirements, including any and all additional requirements that the governing Authorities Having Jurisdiction (AHJ) may also require:
  - 1. Contractor shall maintain and not compromise the existing building's vertical and lateral load capacities of the existing structure.
  - 2. Contractor shall maintain and not compromise the existing building's fire alarms, automatic fire extinguishing systems and their monitoring alarms (where provided), standpipes (where provided), smoke control systems, exit signs, egress lighting, and fire resistive construction assemblies.

3. Any portion(s) of the existing structure which is determined to provide inadequate structural integrity, fire protection, or occupant life safety, must be closed to the tenants during the time in which the structure is being compromised. The affected areas shall not be re-opened to the tenants until the Authorities Having Jurisdiction determine that the affected areas meet the requirements for structural integrity, fire protection and occupant life safety.
4. If it is determined that the building occupant's safety cannot be accomplished at all times, the Contractor shall immediately stop work and notify the Owner, Architect, and the Authorities Having Jurisdiction in writing. The Contractor shall provide to the Owner, Architect, and the Authorities Having Jurisdiction a written schedule of times of closure to the Tenants along with the plans illustrating the area and/or areas of closure for review and approval prior to commencing with the work.
5. Contractor is solely responsible for and shall provide all necessary safety measures to protect the public, the building occupants, and their employees during construction, including but not limited to protection and safeguards to prevent the public and building tenants from entering the construction area(s) at all times during construction.
6. The building's existing means of egress including, but not limited to, exit stairways, common paths of egress, and exit discharge areas, shall not be used by construction personnel during construction for material staging and/or the removal of construction debris and shall remain unobstructed and fully functional in each of their intended use during the entirety of the construction duration.
7. The requirements of the International Fire Code Section 901.7 shall be implemented upon commencement of construction. If any part/portion of the existing fire protection system is taken out of service at any time during construction and specifically affects the building's ability to comply with International Fire Code Section 901.7, the requirements of International Fire Code Section 901.7.4 shall be met in their entirety, including, but not limited to the necessary notifications.

#### 1.13 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
  1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of Authorities Having Jurisdiction (AHJ).
  2. Coordinate and comply with limitations of construction activities that the adjacent property may have concerning specific privacy issues that the Owner of the adjacent property may require during construction activities of this Project.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours as approved by the Owner and permitted by the Authorities Having Jurisdiction (AHJ), Monday through Friday, unless otherwise indicated.
  1. Weekend Hours: As approved by the Owner and permitted by the AHJ.
  2. Early Morning Hours: As approved by the Owner and permitted by the AHJ.
  3. Hours for Utility Shutdowns: As approved by the Owner and permitted by the AHJ.
  4. Hours for noisy activity: As approved by the Owner and permitted by the AHJ.
- C. Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner, in writing, not less than two (2) days in advance of proposed utility interruptions.
  2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.
1. Notify Owner, in writing, not less than two (2) days in advance of proposed disruptive operations.
  2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances on Owner's property is not permitted.
- F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

#### 1.14 START OF WORK

- A. "Notice to Proceed" (NTP) will be issued by the Owner following the execution of the Owner-Contractor Agreement that will permit the Contractor to commence the construction operations for the Work.
- B. Contractor shall give Owner written notice not less than five (5) working days in advance of the actual date on which the Work on-site will physically commence. Contractor shall be entirely responsible for any delay in the Work which may be caused by Contractor's failure to give such notice.

#### 1.15 COMPLETION OF WORK

- A. Division 01 Specification Sections related to completion of work, project closet, final cleaning and other applicable sections shall apply to this Section.
- B. Certificate of Occupancy:
1. Obtain a Certificate of Occupancy from Authorities Having Jurisdiction (AHJ) for areas where work is being performed before Owner occupancy. NOTE: Building(s) will be occupied during construction- Refer to Section 1.12 of this Section for additional requirements.
  2. Before Owner occupancy, mechanical, plumbing and electrical systems, as well as all life safety systems and equipment, shall be fully operational, and required tests and inspections shall be successfully completed. Upon occupancy, Owner will operate and maintain mechanical, plumbing and electrical systems serving occupied portions of Work.
  3. Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

**1.16 INTERPRETATION OF CONTRACT DOCUMENTS**

- A. Should the Contractor find discrepancies or omissions within the contract drawings or specifications documentation, or should the Contractor be in doubt as to their meaning, the Contractor shall at once notify the Architect in writing utilizing the request for interpretation process expressed in this Project Manual, refer to Division 00, Section “Request for Information” (RFI) for the form. Should it be found by the Architect or its Consultants that the Contractor’s inquiry requires further clarification, the response shall be in writing by the Architect or its Consultants using the appropriate document.

**1.17 ORAL MODIFICATIONS (Will Not Be Permitted.)**

- A. It shall be distinctly understood by the Contractor that no oral statement by any person during the course of construction will be allowed to modify or change the Work or any of the Contract Drawings or Specification documents. Any modifications or changes to the Work that are expressed in the Contract Drawings or Specifications documents can only be made in writing by utilizing the appropriate documentation expressed in Division 00 and Division 01 of this Project Manual.
  - 1. The ONLY exception is in the case of an emergency endangering life or property.

**1.18 SPECIFICATION AND DRAWING CONVENTIONS**

- A. Project Manual Format: The Project Manual (commonly referred to as the “specifications”) is organized into Divisions and Sections; and uses Division 01 through Division 33 as used by the Construction Specifications Institute (CSI) “MasterFormat” numbering system.
- B. 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.
- C. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- D. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- E. Drawing Coordination: Requirements for materials and products identified on the drawings are described in the specifications. One or more of the following are used on the drawings to identify materials and products:
  - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual specification sections.



2. Abbreviations: Materials and products are identified by abbreviations scheduled on the drawings.
3. Keynoting: Materials and products are identified by utilizing reference keynotes for materials and products found within the Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 011000**

**SECTION 012200 - UNIT PRICES****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 unit prices.
- B. Related Requirements:
  - 1. Division 01, Section "Allowances" for procedures for using unit prices to adjust quantity allowances.
  - 2. Division 01, Section "Temporary Facilities and Controls" for temporary facilities and scaffolding as may be required.

**1.3 DEFINITIONS**

- A. Unit price is an amount incorporated into 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. Unit Pricing – General: Contractor shall provide Owner with schedule of all unit pricing at time of Bid.
- C. 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.
- D. 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.
- E. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Refer to Bid Form and fully executed Owner-Contractor Agreement for the complete list of Owner-Contractor approved unit prices not listed below:

1. Unit Price No. 01: Plywood Sheathing.
  - a. Description: Removal and replacement of exterior roof and wall sheathing.
  - b. Unit of Measurement: Per square foot for exterior roof and wall sheathing installation (installed cost shall include all material(s), disposal, and labor costs).
  - c. Owner will reimburse General Contractor for direct cost of building permit associated with sheathing replacement. Cost of permit shall not be included in pricing.
2. Unit Price No. 02: Sliding Glass Door Replacement.
  - a. Description: Removal and replacement of sliding glass door assembly.
  - b. Unit of Measurement: Each sliding glass door assembly installation (installed cost shall include all material(s) and labor costs). Cost shall include demolition, interior and exterior trim, flashings and miscellaneous materials as necessary to provide a complete installation.

**END OF SECTION 012200**

## **SECTION 012300 - ALTERNATES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for alternates.

#### **1.3 DEFINITIONS**

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be deducted from the base bid.
  - 1. The sum of each alternate is the net deduction from the Contract Sum. No other adjustments are made to the Contract Sum.

#### **1.4 PROCEDURES**

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.
- C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Refer to Bid Form and fully executed Owner-Contractor Agreement for the complete list of Owner-Contractor approved Alternates not listed below:

1. Deductive Alternate No. 01: Building C:
  - a. Remove Building C's scope of work in its entirety, including roofing, siding repairs, and exterior paint, from Contract.
2. Deductive Alternate No. 02: Building D:
  - a. Remove Building D's scope of work in its entirety, including roofing, siding repairs, and exterior paint, from Contract.
3. Deductive Alternate No. 03: Building E:
  - a. Remove Building E's scope of work in its entirety, including roofing, siding repairs, and exterior paint, from Contract.
4. Deductive Alternate No. 04: Building K:
  - a. Remove Building K's scope of work in its entirety, including roofing, siding repairs, and exterior paint, from Contract.

**END OF SECTION 012300**

**SECTION 012500 - 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 01 Specifications, apply to this Section.

**1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements governing product substitution procedures, but limited to, the following:
  - 1. Definitions.
  - 2. Contractor's responsibilities.
  - 3. Substitution submittal procedures.
  - 4. Substitutions requirements during the bidding period.
  - 5. Substitutions requested after award of Contract.
  - 6. Substitutions not permitted.
- B. Related Requirements:
  - 1. Division 00, Section "Substitution Request – (form)".
  - 2. Document 01, Section "Reference", for applicability of industry standards to products specified.
  - 3. Division 01, Section "Product Requirements" for requirements governing Contractor's selection of products and product options.

**1.3 DEFINITIONS**

- A. Substitutions: Contractor proposals for changes in products, materials, equipment, and methods of construction from those required by the Contract Documents made during bidding and negotiation, and after award of Contract are considered to be requests for substitution 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.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.
- B. The following are not considered to be requests for substitution:
  - 1. Revisions to the Contract Documents requested by Owner or Architect.

2. Specified options of products and construction methods included in the Contract Documents.
  3. Contractor's determination of and compliance with regulations and orders issued by governing authorities.
- C. Substitutions accepted during the bidding period are accepted by Addendum prior to award of Contract, and thereafter are included in the Contract Documents.
- D. Substitutions requested and accepted after award of contract are accepted only by Change Order, and thereafter are included in the Contract Documents. Such a request shall be in accordance with Articles 1.4, 1.5, 1.9 and 1.10 of this specification Section.

#### 1.4 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor's responsibilities for substitution requests made after award of Contract are as follows:
1. Investigate proposed products and determine they are equal or superior in all respects to products specified.
  2. Provide same guarantee for accepted substitutions as for products specified.
  3. Make changes in, and coordinate, the Work as may be required to incorporate and install accepted substitutions.
  4. Waive all claims for additional costs which subsequently become apparent which are related to substitutions.

#### 1.5 ACTION SUBMITTALS

- A. Substitution Requests: Submit three (3) 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 form provided in Project Manual or form acceptable to Architect.
  2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
    - b. Coordination of information, including a list of changes or revisions 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 substitutions 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 as well as 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.
  - j. Detailed comparison of Contractor's construction schedule using proposed substitutions 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 (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) 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.
  - c. Architect will be sole judge of acceptability of any proposed substitution, as it relates to architectural design intent, and decision of Architect will be final.

## 1.6 QUALITY ASSURANCE

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

## 1.7 PROCEDURES

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

## 1.8 SUBSTITUTION REQUIREMENTS DURING THE BIDDING PERIOD

- A. Submit full executed (and signed) request for approval of a substitution.



1. Form included under Division 00, Section "Substitution Request – (form)."
  2. Submit three (3) sets of signed form together with the required attachments.
- B. All substitution requests must be received in the Architect's office no less than ten (10) working days prior to Bid Date, unless a longer time frame is otherwise stipulated in the Instructions to Bidders.

#### 1.9 SUBSTITUTIONS REQUESTED AFTER AWARD OF CONTRACT

- A. Substitutions will normally not be considered after award of Contract, except due to unforeseen circumstances. No substitutions after award of contract, unless specified item is no longer available.
- B. Substitutions for Cause: Architect will receive and consider Contractor's request for substitution after award of Contract when one or more of the following conditions are satisfied, as determined by the Architect. If the following conditions are not met, Architect will return the requests without action except to record noncompliance with these requirements.
1. The specified product cannot be provided within the Contract time.
    - a. Architect will not consider the request if the product cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
  2. The specified product cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
  3. The specified product cannot be coordinated with other materials and the Contractor certifies that the proposed substitution can be coordinated.
  4. The specified product cannot provide the required warranty and the Contractor certifies that the proposed substitution provides the warranty.
  5. The requested substitution offers the Owner a substantial advantage in cost, time, or other considerations after deducting additional Owner's cost of compensation to the Architect for redesign and evaluation services, increased cost of other construction, and similar considerations.
- C. Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.
- D. Substitutions for Convenience: Not allowed.

#### 1.10 SUBSTITUTIONS NOT PERMITTED

- A. Substitutions indicated or implied on submitted Shop Drawings or Product Data without first requesting approval in accordance with requirements of this Section.
- B. Where manufacturers, products, or systems listed in the Specifications are not followed with "or approved" or "Substitutions: Provide in accordance with requirements of Section Product Substitution Procedures," it is intended that substitutions are not permitted.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 012500**

**SECTION 012600 - CONTRACT MODIFICATION PROCEDURES****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
  - 1. Architect's Supplemental Instructions (ASI).
  - 2. Proposal Request (PR).
  - 3. Change Order (CO).
  - 4. Construction Change Directive (CCD).
  - 5. Documentation for contract modifications.
  - 6. Correlating change orders with other contract requirements.
- B. Related Sections.
  - 1. Division 00, Section "Project Forms" for ASI, CCD, PR, and CO.
  - 2. Division 01, Section "Product Substitution Procedures" for administrative procedures for handling requests for substitutions made after Contract award.

**1.3 ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS (ASI)**

- A. Architect will issue supplemental instructions (ASI) authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on Architect's office form included in Division 01, Section "Project Forms".
- B. Definition:
  - 1. Architect's written order of instructions to Contractor, signed by Architect, that authorizes minor changes in Work that do not change Contract Sum or Contract Time.
- C. Architect's Supplemental Instructions may include supplementary or revised Drawings and/or Specifications to describe minor changes to Contract Documents.

**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 for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
2. Within ten (10) days 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 costs of labor and supervision 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.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may propose changes by submitting a request 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. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Form:

1. The Architect will use the Architect's office form included in Division 00, Section "Project Forms".
2. The Contractor shall use that entities office form based upon AIA Document G709 for Contractor's Proposal Requests (CPR). Contractor's form shall be approved by the Architect prior to its use.

## 1.5 CHANGE ORDER (CO)

A. Definition:

1. Prepared by Architect and signed by Owner, Contractor, and Architect stating their agreement to a change to Contract Documents and adjustment to Contract Sum and/or Contract Time.

- B. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.
- C. Changes to Project Contract Sum and/or Contract Time listed or indicated in Change Orders shall include or be determined by methods described in the General Conditions, and as follows:
  - 1. Proposal Requests approved for change to Contract Documents by Owner and Architect that have not been converted to a Construction Change Directive.
  - 2. Construction Change Directives where Owner, Architect, and Contractor have agreed to change in Project Contract Sum and/or Contract Time.
  - 3. Changes to Project Contract Sum and/or Contract Time that have not been documented by Proposal Request or Construction Change Directive, but have been agreed upon in writing by Owner, Architect, and Contractor.

#### 1.6 CONSTRUCTION CHANGE DIRECTIVE (CCD)

- A. Definition:
  - 1. Written order prepared by Architect, signed by Owner and Architect, directing Contractor to proceed with change to Contract Documents which affect Contract Sum and/or Contract Time, for subsequent inclusion in a Change Order after change to Contract Sum and/or Contract Time has been determined.
- B. A Construction Change Directive is issued in lieu of a Proposal Request when time is of the essence and change to Contract Sum and/or Contract Time cannot be determined prior to start of the work.
- C. Construction Change Directive: Architect may issue a Construction Change Directive on Architect's office form included in Division 00, Section "Project Forms". 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.
- D. 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.
- E. Contractor shall submit to Architect itemized change to Contract Sum and/or Contract Time within ten (10) working days when possible, and no more than thirty (30) calendar days, except for the following conditions:
  - 1. Unit prices have been agreed upon and quantities cannot be determined until work described in the CCD has been completed.

2. Owner has agreed that Contract Sum and/or Contract Time can be determined at completion of work described in the CCD.
- F. Both Owner and Architect will sign and date a Construction Change Directive which directs the Contractor to proceed with change to the Contract Documents prior to determination of cost and/or time.

#### 1.7 CONTRACTOR MARK-UP LIMITS

- A. The amounts of General Contractor's overhead, profit, and general conditions shall be negotiable on each Change Order Request (COR) and may vary according to the nature, extent, and complexity of the work. General Contractor markups shall comply with the following maximum limits:
1. The General Contractor shall be limited to ten percent (10%) maximum combined Profit / Overhead (Fee) markup for work self-performed, and materials purchased by their own forces.
  2. Likewise, the General Contractor's Subcontractors shall be limited to ten percent (10%) maximum combined Profit / Overhead (Fee) markup for work self-performed by the Subcontractor, and materials purchased by their own forces.
  3. The General Contractor shall be limited to five percent (5%) maximum combined Profit / Overhead (Fee) markup for work performed, and materials purchased by their subcontractors.
  4. Likewise, the General Contractor's Subcontractors shall be limited to five percent (5%) maximum combined Profit / Overhead (Fee) markup for work performed, and materials purchased by their sub-tier subcontractors.
  5. In no case shall the General Contractors and/or Subcontractor's combined cumulative total for Profit / Overhead / and General Conditions exceed fourteen percent (14%).

#### 1.8 DOCUMENTATION FOR CONTRACT MODIFICATIONS

- A. Cost and Time Quotations: Support quotation for changes in the Work with sufficient substantiating data to allow Architect to evaluate quotation, to include the following:
1. Labor expended in hours and unit cost.
  2. Equipment cost.
  3. Products, with quantities used and unit cost, including purchase source.
  4. Taxes, Insurance, and Bonds.
  5. Credit for deleted work where applicable with same documentation as required for cost increases for additional work.
  6. Overhead and profit, determined after credits have been deducted from additions.
  7. Justification for change in Contract Time.
- B. For claims for work not authorized through Proposal Requests or Construction Change Directives, provide supporting documentation for each claim for additional cost as indicated above the cost and time quotations with the following additional information:
1. Name of Owner's authorized agent who ordered work, and date of Order.
  2. Dates and hours work performed, and by whom.

3. Timecard records, including summary of hours worked, and hourly rates paid.
4. Receipts and invoices for products used including quantities and unit costs.
5. Receipts and invoices for equipment utilized, including dates and time of use.
6. Provide the same documentation indicated above for subcontracts same as required for Contractor's own forces.

C. Approved document requests for Product substitutions.

#### 1.9 CORRELATING CHANGE ORDERS WITH OTHER CONTRACT REQUIREMENTS

- A. Revise Schedule of Values and Applications for Payment to record each Change Order as separate item of work with adjustment to Contract Sum and Contract Time as described in Division 01, Section "Payment Procedures".
- B. Revise Construction Schedule to reflect each change in Contract Time.
- C. Revise Sub-contractors schedules to show changes for other items of work affected by modifications to Contract Documents.
- D. Record modifications in Record Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 012600**

**SECTION 012900 - 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 01 Specifications, apply to this Section.

**1.2 SUMMARY**

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections:
  - 1. Division 00, Section “Contracting Forms and Supplements” for administrative forms.
    - a. Administrative Forms Include: “Conditional Release” and “Unconditional Release” forms as part of the Payment Application procedures.
  - 2. Division 01, Section “Contract Modification Procedures” for administrative procedures for handling changes to the Contract.
  - 3. Division 01, Section “Construction Progress Documentation” for administrative requirements governing the preparation and submittal of the 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.
  - 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. Contractor's Construction Schedule.
    - c. Submittals Schedule.
    - d. List of Subcontractors.



- e. List of principle Suppliers and Products.
    - f. List of fabricators.
  2. Submit the schedule of values to Architect at earliest possible date, but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.
  3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of 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 (firm name).
    - c. Architect's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  2. Arrange schedule of values consistent with format of AIA Document G703.
  3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
    - a. Related Specification Section or Division.
    - b. Description of the Work.
    - c. Name of subcontractor.
    - d. Name of manufacturer or fabricator.
    - e. Name of supplier.
    - f. Change Orders (numbers) that affect value.
    - g. Dollar value.
      - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
  4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide several line items for principal subcontract amounts, where appropriate.
  5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
  6. 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 specified, include evidence of insurance or bonded warehousing.
  7. 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.

8. 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.
9. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
10. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
11. Overhead Costs: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
12. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements.
13. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.
14. 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.
15. 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 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: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- 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.
- E. Electronic Transmittal: Electronically submit via e-mail one (1) signed and notarized original copy of each Application for Payment to Architect by a method ensuring receipt. Each Application for Payment shall include waivers of lien and similar attachments. Architect shall retain one (1) copy and electronically forward the Application for Payment and attachments to the Owner after review by Architect.
1. The electronic email subject line shall clearly list "Application for Payment" number and record appropriate information about application and attachments in the body of the email.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien 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.
- G. 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. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
  5. Products list (preliminary if not final).
  6. Schedule of unit prices.
  7. Submittal schedule (preliminary if not final).
  8. List of Contractor's staff assignments.
  9. List of Contractor's principal consultants.
  10. Copies of building permits.
  11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  12. Initial progress report.
  13. Report of preconstruction conference.
  14. Certificates of insurance and insurance policies.
  15. Performance and payment bonds.

16. Data needed to acquire Owner's insurance.
- H. 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.
- I. 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 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 SECTION 012900**

**SECTION 013100 - 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 01 Specifications, 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. Coordination drawings.
  - 3. Key personnel.
  - 4. Request for Information (RFI).
  - 5. Digital project management procedures.
  - 6. Project meetings.
- B. Related Requirements:
  - 1. Division 00, Section "Project Forms."
  - 2. Division 01, Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
  - 3. Division 01, Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
  - 4. Division 01, Section "Closeout Procedures" for coordinating closeout of the Contract

**1.3 DEFINITIONS**

- A. Request For Information (RFI): Request from Owner, Architect, or Contractor seeking interpretation from each other during construction.

**1.4 INFORMATIONAL SUBMITTALS**

- A. 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. Include the following information in tabular form:
  - 1. Name, address, telephone number, and email address 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.

## 1.5 GENERAL COORDINATION PROCEDURES

- 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 and activities of other contractors 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.

## 1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated 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.
  2. Review: Architect will review coordination drawings to confirm that, in general, the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make suitable modifications and resubmit.
    - a. Coordination Drawing Prints: Prepare coordination drawing prints for review in accordance with requirements of Division 01 Section "Submittal Procedures".
- B. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
1. File Submittal Format: Submit or post coordination drawing files using PDF format.

#### 1.7 KEY PERSONNEL

- A. Key Personnel Names: Within fifteen (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.

#### 1.8 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return without response those RFI's submitted to Architect by other entities controlled by Contractor.
  2. Coordinate and submit RFI's 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 and address.
  2. Owner name.
  3. Owner's Project number.
  4. Name of Architect.
  5. Architect's Project number.
  6. Date.
  7. Name of Contractor.
  8. RFI number, numbered sequentially.
  9. RFI subject.
  10. Specification Section number and title and related paragraphs, as appropriate.
  11. Drawing number and detail references, as appropriate.
  12. Field dimensions and conditions, as appropriate.
  13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  14. Contractor's signature.
  15. 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: Located in the Project Manual under Division 00, Section "Request For Interpretation (RFI) – form" or Contractor's standard form if determined to be acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFI's will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods.
    - d. Requests for coordination information already indicated in the Contract Documents.
    - e. Requests for adjustments in the Contract Time or the Contract Sum.
    - f. Requests for interpretation of Architect's actions on submittals.
    - g. Incomplete RFI's or inaccurately prepared RFI's.
    - h. Unreadable facsimile machine RFI's, illegibly written RFI's or RFI's with incomplete information.
  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 by Architect additional information.



3. Architect's action on RFI's 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 01, 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 five (5) days of receipt of the RFI response.
  - E. Contractor, in being fully familiar with the Contract Documents, shall not be relieved of responsibility to coordinate the Work to prevent adverse impact to Project schedule when submitting RFI's to the Architect for interpretation of the Contract Documents.
  - F. 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 seven (7) days if Contractor disagrees with response.
  - G. RFI Log: Prepare, maintain, and submit a tabular log of RFI's 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 (firm name).
    4. RFI number including RFI's that were returned without action or withdrawn.
    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.
  - H. 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 three (3) days if Contractor disagrees with response.
- 1.9 DIGITAL PROJECT MANAGEMENT PROCEDURES
- A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings may be provided by Architect at its discretion for Contractor's use in preparing submittals. For bidding purposes, the Contractor shall not assume that the Architect will be releasing said files. However, at the Architect's discretion the following course of action will be considered by the Architect:
    1. General: Upon receipt of the General Contractor's written request (not from a subcontractor or other entity) for specific drawing backgrounds, copies of Architect's CAD files may be provided to Contractor for Contractor's use in connection with Project for use in preparing Shop Drawings and Project record drawings, subject to the following conditions:

- a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings. The User may use at their own risk pertaining to this specific Project.
  - b. The office of the Architect may furnish only the Architectural CAD backgrounds that already exist without the Architect's title block upon receipt of written request by the General Contractor at the discretion of the Architect's office. The General Contractor shall use their own title block as appropriate when developing Contractor drawings.
  - c. There may be limitations on availability of Architect's consultant files, limitations of CAD system formats, limitations on CAD entity attributes and layering.
- B. Web-Based Project Management Software Package: Contractor may provide, administer, and use a web-based Project management software package for purposes of hosting and managing Project communication and documentation until Final Completion with the Architect and Owner's approval.
- 1. If a web-based project management software is used, the software shall, at a minimum, the following features:
    - a. Compilation of Project data, including Contractor, subcontractors, Architect, architect's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
    - b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
    - c. Document workflow planning, allowing customization of workflow between project entities.
    - d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Construction Change Directives, and Change Orders.
    - e. Track status of each Project communication in real time, and log time and date when responses are provided.
    - f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
    - g. Processing and tracking of payment applications.
    - h. Processing and tracking of contract modifications.
    - i. Creating and distributing meeting minutes.
    - j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
    - k. Management of construction progress photographs.
    - l. Mobile device compatibility, including smartphones and tablets.
  - 2. Provide web-based Project management software user licenses for use of Owner, Architect, and Architect's consultants. Provide software training at Architect's office for web-based Project software users.
  - 3. At completion of Project, provide digital archive in format that is readable by common desktop software applications in format acceptable to Architect. Provide data in locked format to prevent further changes.
- C. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

#### 1.10 PROJECT MEETINGS

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

- B. Preconstruction Conference: Contractor shall schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than fifteen (15) days after execution of the Agreement. The conference will be held at the Project site or another convenient location as mutually agreed upon by the Owner and the Architect.

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. Contractor's construction schedule.
  - b. Phasing, if applicable for this Project.
  - c. Responsibilities and personnel assignments.
  - d. Critical work sequencing and long lead items.
  - e. Designation of key personnel and their duties.
  - f. Lines of communications.
  - g. Use of web-based Project software.
  - h. Procedures for processing field decisions and Change Orders.
  - i. Procedures for RFI's.
  - j. Procedures for testing and inspecting.
  - k. Procedures for processing Applications for Payment.
  - l. Distribution of the Contract Documents.
  - m. Submittal procedures.
  - n. Sustainable design requirements.
  - o. Preparation of Record Documents.
  - p. Use of the premises and existing building.
  - q. Work restrictions.

- r. Working hours.
    - s. Owner's occupancy requirements.
    - t. Responsibility for temporary facilities and controls.
    - u. Procedures for moisture and mold control.
    - v. Procedures for disruptions and shutdowns.
    - w. Construction waste management and recycling.
    - x. Parking availability.
    - y. Office, work, and storage areas.
    - z. Equipment deliveries and priorities.
    - aa. First aid.
    - bb. Security.
    - cc. Progress cleaning.
    - dd. Contractor's safety procedures and requirements that Contractor will be initiating and be responsible for during the entire project.
  - 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 when required by other sections and when required for 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 Owner, 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. Related RFI's.
    - c. Related Change Orders.
    - d. Purchases.
    - e. Deliveries.
    - f. Submittals.
    - g. Review of mockups.
    - h. Possible conflicts.
    - i. Compatibility requirements.
    - j. Time schedules.
    - k. Weather limitations.
    - l. Manufacturer's written instructions.
    - m. Warranty requirements.
    - n. Compatibility of materials.
    - o. Acceptability of substrates.
    - p. Temporary facilities and controls.
    - q. Space and access limitations.
    - r. Regulations of authorities having jurisdiction.
    - s. Testing and inspecting requirements.
    - t. Installation procedures.
    - u. Coordination with other work.
    - v. Required performance results.

- w. Protection of adjacent work.
  - x. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at weekly 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) Work hours.
      - 10) Hazards and risks.
      - 11) Progress cleaning.
      - 12) Quality and work standards.
      - 13) Status of correction of deficient items.
      - 14) Field observations.
      - 15) Status of RFI's.
      - 16) Status of Proposal Requests.
      - 17) Pending changes.

- 18) Status of Change Orders.
  - 19) Pending claims and disputes.
  - 20) 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. Distribute minutes of the meeting to each party present and to parties who should have been present.
    - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- E. Coordination Meetings: Conduct Project coordination meetings as determined to be appropriate/required by specification Sections of this Project Manual. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to inviting 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 meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined 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.
    - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
    - c. Review present and future needs of each contractor 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) Work hours.
      - 10) Hazards and risks.
      - 11) Progress cleaning.
      - 12) Quality and work standards.

- 13) Change Orders.
3. Reporting: Record meeting results and distribute copies to Owner and Architect and to everyone in attendance and to others affected by decisions or actions resulting from each meeting.
- F. Mock-up Meetings: Conduct mock-up meetings as determined to be appropriate/required by specification Sections of this Project Manual.
1. Attendees: In addition to inviting 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 meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Review items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Review present and future needs of each contractor 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) Work hours.
      - 10) Hazards and risks.
      - 11) Progress cleaning.
      - 12) Quality and work standards.
      - 13) Change Orders.
  3. Reporting: Record meeting results and distribute copies to Owner and Architect and to everyone in attendance and to others affected by decisions or actions resulting from each meeting.
- G. Project Closeout Conference: Schedule and conduct a Project closeout conference, at a time convenient to Owner and Architect, but no later than thirty (30) 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 sustainable design documentation.
  - e. Requirements for preparing operations and maintenance data.
  - f. Requirements for demonstration and training.
  - g. Preparation of Contractor's punch list.
  - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
  - i. Submittal procedures.
  - j. Coordination of separate contracts.
  - k. Owner's partial occupancy requirements.
  - l. Installation of Owner's furniture, fixtures, and equipment.
  - m. Responsibility for removing temporary facilities and controls.
4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 013100**



**SECTION 013200 - 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 01 Specifications, 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. Preliminary Construction Schedule.
  - 2. Contractor's Construction Schedule.
  - 3. Contractor's Construction Schedule (Gantt-Chart) Requirements.
  - 4. Daily construction reports.
  - 5. Material location reports.
  - 6. Field condition reports.
  - 7. Special reports.
- B. Related Sections include the following:
  - 1. Division 01, Section "Payment Procedures" for submitting the Schedule of Values.
  - 2. Division 01, Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
  - 3. Division 01, Section "Submittal Procedures" for submitting schedules and reports.
  - 4. Division 01, 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. Critical Path Method (CPM): Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

- 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. Major Area: A story of construction, a separate building, or a similar significant construction element.
- G. Milestone: A key or critical point in time for reference or measurement.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. Working electronic copy of schedule file.
  - 2. PDF file.
  - 3. Hard copy of sufficient size to display entire period or schedule, as required.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
  - 1. Submit a working digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals.
- C. Material Location Reports: submit at monthly intervals.
- D. Field Condition Reports: Submit at time of discovery of differing conditions.
- E. Special Reports: Submit at time of unusual event.
- F. Special Inspections: Submit at time of special inspection as required by Authorities Having Jurisdiction (AHJ) and as indicated on Drawings and within specification Sections of this Project Manual.
- G. Construction Schedule Updating Reports: Submit with Applications for Payment.

#### 1.5 QUALITY ASSURANCE

- A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01, 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 work stages, interim milestones and partial Owner occupancy.
4. Review delivery dates for Owner-furnished products.
5. Review schedule for work of Owner's separate contracts.
6. Review time required for review of submittals and resubmittals.
7. Review requirements for tests and inspections by independent testing and inspecting agencies.
8. Review time required for completion and startup procedures.
9. Review and finalize list of construction activities to be included in schedule.
10. Review submittal requirements and procedures.
11. 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.

#### 1.7 PRELIMINARY CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven (7) days of date established for commencement of the Work.
- 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 sixty (60) days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

#### 1.8 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling".
- B. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

- C. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final 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.
- D. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than twenty (20) days, unless specifically allowed by Owner and Architect.
  2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than sixty (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 01, Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
  4. Startup and Testing Time: Include no fewer than fifteen (15) days for startup and testing.
  5. Commissioning Time: Include no fewer than fifteen (15) days for commissioning.
  6. 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.
  7. Punch List and Final Completion: Include not more than thirty (30) days for completion of punch list items and final completion.
- E. 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. Phasing (if applicable to the Project): Arrange list of activities on schedule by phase.
  2. Work under More Than One Contract: Include a separate activity for each contract.
  3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
  4. Products Ordered in Advance: Include a separate activity for each product. Include delivery dates.
  5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 01, Section "Summary". Delivery dates indicated stipulate the earliest possible delivery date.
  6. Work Restrictions: Show the effect of the following items on the schedule, where applicable for this Project:
    - a. Coordination with existing construction.
    - b. Limitations of continued occupancies.
    - c. Uninterruptible services.
    - d. Partial occupancy before Substantial Completion.
    - e. Use-of-premises restrictions.
    - f. Provisions for future construction.
    - g. Seasonal variations.
    - h. Environmental control.

7. 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. Sample testing.
    - g. Deliveries.
    - h. Installation.
    - i. Tests and inspections.
    - j. Adjusting.
    - k. Curing.
    - l. Startup and placement into final use and operation.
  8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
    - a. Structural completion.
    - b. Permanent space enclosure.
    - c. Completion of mechanical installation.
    - d. Completion of electrical installation.
    - e. Substantial Completion.
- F. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion, and the following interim milestones:
1. Temporary enclosure and space conditioning.
- G. 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 Requests for Information (RFI's).
  3. Rejected or unreturned submittals.
  4. Notations on returned submittals.
  5. Pending modifications affecting the Work and the Contract Time.
- H. 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.

- I. Recovery Schedule: When periodic update indicates the Work is fourteen (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, equipment required to achieve compliance, and date by which recovery will be accomplished.
- J. 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.

#### 1.9 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT-CHART) REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within thirty (30) days of date established for commencement of the Work. Base schedule on the Preliminary Construction Schedule and whatever updates and feedback were received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
  - 1. For construction activities that require three (3) months or longer to complete, indicate an estimated completion percentage in ten (10) percent increments within time bar.

#### 1.10 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. List of separate contractors at Project site.
  - 3. Approximate count of personnel at Project site.
  - 4. Equipment at Project site.
  - 5. Material deliveries.
  - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
  - 7. Testing and inspection.
  - 8. Accidents.
  - 9. Meetings and significant decisions.
  - 10. Stoppages, delays, shortages, and losses.
  - 11. Meter readings and similar recordings.
  - 12. Emergency procedures.
  - 13. Orders and requests of authorities having jurisdiction.
  - 14. Change Orders received and implemented.
  - 15. Construction Change Directives received and implemented.

16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial completions and occupancies.
19. 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. 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 site 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.

#### 1.11 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner and Architect within one (1) day 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 and Architect in advance when these events are known or predictable.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 013200**

**SECTION 013233 - 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 Specifications, apply to this Section.

**1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for the following:
  - 1. Preconstruction photographs.
  - 2. Concealed Work photographs.
  - 3. Periodic construction photographs.
  - 4. Final completion construction photographs.
- B. Related Requirements:
  - 1. Division 01, Section "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
  - 2. Division 02, Section "Selective Demolition" for photographic documentation before selective demolition 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. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within three (3) days of taking photographs.
  - 1. Submit photos on a thumb-drive or by uploading to an Owner and Architect approved web-based Project management software site. Include copy of key plan indicating each photograph's location and direction.
  - 2. Identification: Provide the following information with each image description in file metadata tag:
    - a. Name of Project.
    - b. Name and contact information for photographer.
    - c. Name of Architect (firm name).
    - d. Name of Contractor.
    - e. Date photograph was taken.
    - f. Description of location, vantage point, and direction.
    - g. Unique sequential identifier keyed to accompanying key plan.



#### 1.4 FORMATS AND MEDIA

- A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of twelve (12) megapixels, and at an image resolution of not less than 3200 by 2400 pixels and with vibration-reduction technology. Use flash in low light levels or backlit conditions.
- B. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
- C. Metadata: Record accurate date and time from camera.
- D. File Names: Name media files with date and Project area and sequential numbering suffix.

#### 1.5 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs with maximum depth of field and in focus.
  - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Preconstruction Photographs: Before commencement of the Work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Owner.
  - 1. Flag construction limits before taking construction photographs.
  - 2. Take adequate quantities of photographs to show existing conditions adjacent to property before starting the Work.
  - 3. Take adequate quantities of 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.
- C. Concealed Work Photographs: Before proceeding with installing work that will conceal other work, take photographs sufficient in number, with annotated descriptions, to record nature and location of concealed Work, including, but not limited to, the following:
  - 1. Underground utilities.
  - 2. Underslab services.
  - 3. Piping.
  - 4. Electrical conduit.
  - 5. Waterproofing and weather-resistant barriers.
  - 6. Sheathing replacement.
  - 7. Framing repairs.
- D. Periodic Construction Photographs: Take adequate quantities of photographs weekly coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

- E. Final Completion Construction Photographs: Take adequate quantities of photographs after date of Substantial Completion for submission as Project Record Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 013233**

**SECTION 013300 - 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 01 Specifications, 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:
  - 1. Submittal schedule requirements.
  - 2. Administrative and procedural requirements for submittals.
- B. Architect and Architect's Consultants shall review Submittals for specification sections prepared by the Architect and Architect's Consultants (respectively).
- C. Submittals for scopes of work and/or specification sections not prepared by Architect or Architect's Consultants will be returned without review.
- D. Related Sections:
  - 1. Division 01, Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
  - 2. Division 01, Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
  - 3. Division 01, Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
  - 4. Division 01, Section "Quality Requirements" for submitting test and inspection reports and for mockup requirements.
  - 5. Division 01, Section "Deferred Submittals" for General Contractor's responsibility for certain components of the Work that is being deferred for submittal the local governing jurisdiction.
  - 6. Division 01, Section "Delegated Design Requirements" for General Contractor's responsibility for certain components of the Work for design-build systems and/or components under this project.
  - 7. Division 01, Section "Closeout Procedures" for submitting warranties.
  - 8. Division 01, Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
  - 9. Division 01, Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
  - 10. Division 02, through Division 33 for specific requirements for submittals in those Sections.

### 1.3 DEFINITIONS

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

### 1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list 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 revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
  - 1. Contractor shall provide a complete "Submittal Schedule" prior to its mobilization on-site.
  - 2. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
  - 3. Initial Submittal: Submit concurrently with preliminary construction schedule. Include submittals required during the first sixty (60) 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.
  - 4. 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.
  - 5. 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.

### 1.5 SUBMITTAL FORMATS

- A. Submittal Identification and Information: Place a permanent label or titleblock on each paper copy submittal, or electronic copy submittal, item for identification.

1. General Contractor shall review submittal in its entirety, stamp with its appropriate firm's stamp, sign and date prior to submitting said submittal to the Architect.
  2. Indicate name of firm or entity that prepared each submittal on label or title block.
  3. Provide not less than one space having a 3- by 4-inch area (provide two locations where both Architect and Design Discipline need to stamp) on label or beside title block to record Contractor's review and approval markings and action taken by Architect. In addition, provide size of space required to record Contractor's review and approval markings.
  4. Include the following information for processing and recording action taken:
    - a. Project name.
    - b. Date (and any revision dates).
    - c. Name of Architectural firm, address and phone number.
    - d. Retain first subparagraph below if a construction manager has been retained for Project.
    - e. Name of Construction Manager (if any on project), address and phone number.
    - f. Name of Contractor, address and phone number.
    - g. Name of subcontractor, address and phone number.
    - h. Name of manufacturer, address and phone number.
    - i. Name of supplier, address and phone number.
    - j. Revise first subparagraph below to suit Project and office practice.
    - k. Unique submittal number, including revision identifier.
      - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 087100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 087100.01.A).
    - l. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
    - m. Drawing number and detail references, as appropriate.
    - n. Indication of full or partial submittal.
    - o. Location(s) where product is to be installed, as appropriate.
    - p. Other necessary identification.
    - q. Remarks.
    - r. Signature of transmitter.
- B. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed electronic file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
  2. Name file with submittal number or other unique identifier, including revision identifier.
    - a. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 08 71 00.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 08 71 00.01.A).
  3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.

4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Architect, containing the following information:
  - a. Project name.
  - b. Date (and any revision dates).
  - c. Name of Architectural firm, address and phone number.
  - d. Architect's Project Number.
  - e. Name of Construction Manager (if any on project), address and phone number.
  - f. Name of Contractor, address and phone number.
  - g. Name of firm or entity that prepared submittal.
  - h. Name of subcontractor, address and phone number.
  - i. Name of supplier, address and phone number.
  - j. Name of manufacturer, address and phone number.
  - k. 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., 08 71 00.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 08 71 00.01.A).
  - l. Number and title of appropriate Specification Section
  - m. Drawing number and detail references, as appropriate.
  - n. Location(s) where product is to be installed, as appropriate.
  - o. Other necessary identification.
2. Metadata: Include the following information as keywords in the electronic submittal file metadata:
  - a. Project name.
  - b. Number and title of appropriate Specification Section.
  - c. Manufacturer name.
  - d. Product name.
- C. Submittals for Utilizing Web-Based Project Management Software: Prepare submittals as PDF files, or other format indicated by Project management software.
- D. Options: Identify options requiring selection by Architect.
- E. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- F. Paper Submittals: 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. Action Submittals: Submit four (4) paper copies of each submittal unless otherwise indicated. Architect, Owner and Design Consultant, when required, will each retain once copy. Architect will return one (1) copy to the Contractor.

2. Informational Submittals: Submit four (4) paper copies of each submittal unless otherwise indicated. Architect, Owner and Design Consultant, when required, will each retain once copy. Architect will return one (1) copy to the Contractor.
- G. Electronic submittal procedures shall be required for this Project as follows:
1. Action Submittals: Submit one (1) electronic submittal via e-mail of each submittal, unless otherwise indicated. Architect will return one (1) electronic submittal via e-mail.
  2. Informational Submittals: Submit one (1) electronic submittal via e-mail of each submittal, unless otherwise indicated. Architect will return one (1) electronic submittal via e-mail.
  3. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01, 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.
- H. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using Contractor's typical transmittal form. Architect will discard submittals received from sources other than Contractor.
1. Transmittal Form, for both electronic and hard copy submittals: Provide locations on form for the following information:
    - a. Project name.
    - b. Date (and any revision dates).
    - c. Name of Architectural firm, address and phone number.
    - d. Architect's Project Number.
    - e. Destination (To:).
    - f. Source (From:).
    - g. Clearly indicate quantity of items being transmitted.
    - h. Clearly indicate type of submittal (action submittal or informational submittal).
    - i. Names and addresses of subcontractor, manufacturer, and supplier.
    - j. Submittal purpose and description.
    - k. Specification Section number and title.
    - l. Drawing number and detail references, as appropriate.
    - m. Transmittal number, numbered consecutively.
    - n. Submittal and transmittal distribution record.
    - o. Remarks.
    - p. Signature of transmitter.
  2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect or Architect's Consultants 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 and/or its Consultant'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 or its Consultant's action stamp.

## 1.6 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
  2. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project management software website. Enter required data in web-based software site to fully identify submittal.
  3. Paper: Prepare submittals in paper form, and deliver to Architect.
- 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 unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  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 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. Submittal having been received after 1:00 PM at the office of the Architect, it shall be deemed as having been received on the next business working day. 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 ten (10) business 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.
- D. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow fifteen (15) business days for initial review of each submittal.
- E. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Resubmittal Review: Allow ten (10) business days for review of each resubmittal.
- F. 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.
- G. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

#### 1.7 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. General: Architect may furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
1. Refer to Division 01, Section "Project Management and Coordination" for requirements related to use of Architect's digital data files.
- 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 unsuitable 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 (strike through non-specific project items).
    - b. Manufacturer's product specifications (strike through non-specific project items).
    - c. Manufacturer's written recommendations.
    - d. Manufacturer's installation instructions.
    - e. Standard color charts (full range).
    - f. Statement of compliance with specified referenced standards.
    - g. Testing by recognized testing agency.
    - h. Application of testing agency labels and seals.
    - i. Notation of coordination requirements.
    - j. Availability and delivery time information.
    - k. Mill reports.
  4. For equipment, include the following in addition to the above, as applicable:

- a. Wiring diagrams that show factory-installed wiring.
    - b. Printed performance curves.
    - c. Operational range diagrams.
    - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
  5. Submit Product Data concurrent with Samples.
- 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. Dimension: Clearly identify dimensions established by field measurement.
    - c. Fabrication and installation drawings.
    - d. Rough-in and setting diagrams.
    - e. Wiring diagrams showing field installed wiring; differentiate between manufacturer installed and field installed wiring.
    - f. Shop-work manufacturing instructions.
    - g. Templates and patterns.
    - h. Schedules.
    - i. Compliance with specified standards.
    - j. Notation of coordination requirements.
    - k. Relationship and attachment to adjoining construction elements, systems, and components clearly indicated.
    - l. Seal and signature of professional engineer and/or design professional 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 (215 by 280 mm), but no larger than 24 by 36 inches (750 by 1067 mm).
  3. Shop drawing quality:
    - a. All line work shall be clean and crisp with no feathering or fading.
    - b. Line work important to the drawing shall be emphasized by increasing the line weight and density.
    - c. Text size shall be a minimum of 1/8-inch in height and shall be of a style easy to read, such as Helvetica style font.
    - d. Notes shall be clear and concise.
- 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: Permanently attach label on unexposed side of Samples that includes the following:

- a. Project name and submittal number.
  - b. Generic description of Sample.
  - c. Product name and name of manufacturer.
  - d. Sample source.
  - e. Number and title of applicable Specification Section.
  - f. Specification paragraph number and generic name of each item.
3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
4. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
5. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
6. 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 that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
  - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
7. 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 one (1) full set 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.
8. 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 three (3) sets of Samples. Architect Owner will each retain one (1) sample sets; remainder will be returned. Contractor shall 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 (3) 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.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01, Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 01, Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 01, 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. 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.
- J. 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.
- K. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- L. Maintenance Data: Comply with requirements specified in Division 01, Section "Operation and Maintenance Data".
- M. Certificates:
1. Certificates and Certifications Submittals: Submit 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. Provide a notarized signature where indicated.
  2. 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.

3. 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.
4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
6. 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.

N. Test and Research Reports:

1. General: Comply with requirements specified in Division 01, Section "Quality Requirements".
2. 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 substrate preparation and primers required
3. Field Test Reports: Submit written 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.
4. 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.
5. 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.
6. Product Test Reports: Submit written reports indicating that 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.
7. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
  - a. Name of evaluation organization.
  - b. Date of evaluation.
  - c. Time period when report is in effect.
  - d. Product and manufacturers' names.
  - e. Description of product.
  - f. Test procedures and results.
  - g. Limitations of use.

1.8 DELEGATED-DESIGN SERVICES

- A. DISCLAIMER NOTICE: Known "Deferred Submittals" and "Design-Build" requirements will be indicated on the Architectural drawing cover sheet for this Project. When any Specification

Section in this Project Manual or with the Contract Documents requires delegated-design services for this Project, then this Article 1.8 of this Specification Section shall apply as indicated below.

- B. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents per Divisions 01, “Deferred Submittals” and “Delegated Design Requirements”, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Architect.
- C. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals (refer to “Article 1.5 – Submittal Formats” and Article 1.6 – Submittal Procedures” above for quantity and routing procedures), submit paper and/or electronic copies of certificate, signed and sealed by the responsible design professional in the State where the Project is located, 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.

#### 1.9 CONTRACTOR'S REVIEW

- A. Action Submittals 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. Submittals that do not include the Contractor’s approval stamp, date, and signature will be returned without action.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01, Section “Closeout Procedures.”
- C. Contractor's Approval: Stamp each submittal with a uniform, approval stamp indicating Contractor's approval. Include 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.

#### 1.10 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp, date and signature; and those will return them without action.
- B. Action Submittals: Architect and/or its Consultant will review each submittal, make marks to indicate corrections, modifications, or revisions required, and return it. Architect and/or its Consultant will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:

1. Final Unrestricted Release: When a submittal is marked “NO EXCEPTION TAKEN,” Work covered by submittal may proceed provided it complies with requirements of Contract Documents.
2. Final-But-Restricted Release: When a submittal is marked “MAKE CORRECTIONS NOTED,” Work covered by submittal may proceed provided it complies with notations or corrections on submittal and requirements of Contract Documents.
3. Returned for Resubmittal: When a submittal is marked “REVISE AND RESUBMIT,” do not proceed with Work covered by submittal, including purchasing, fabrication, delivery, or other activity.
  - a. Revise or prepare a new submittal according to notations and resubmit. Repeat as necessary to obtain an action releasing submittal.
  - b. Do not use, or allow others to use, submittals marked “REVISE AND RESUBMIT,” at Project site or elsewhere where Work is in progress.
4. Returned for Resubmittal: When a submittal is marked “SUBMIT SPECIFIED ITEM,” do not proceed with Work covered by submittal, including purchasing, fabrication, delivery, or other activity.
  - a. Revise or prepare a new submittal according to notations and resubmit. Repeat as necessary to obtain an action releasing submittal.
  - b. Do not use, or allow others to use, submittals marked “SUBMIT SPECIFIED ITEM,” at Project site or elsewhere where Work is in progress.
5. Rejected Submittal: When a submittal is marked “REJECTED,” do not proceed with Work covered by submittal, including purchasing, fabrication, delivery, or other activity.
  - a. Prepare a new submittal according to notations and resubmit. Repeat as necessary to obtain an action releasing submittal.
  - b. Do not use, or allow others to use, submittals marked “REJECTED,” at Project site or elsewhere where Work is in progress.
6. Submittals for Record: Where a submittal is for record purposes or special processing or other activity, Architect and/or its Consultant will return submittal marked "RECORD ONLY."
7. Final Unrestricted Release: When a submittal is marked “REVIEWED.” Work covered by submittal has been received at the office of the Architect and/or its Consultant and has been reviewed and generally complies with the overall project design intent and may proceed provided it complies with requirements of Contract Document. This is usually reserved for “Design-Build” or “Delegated-Design” submittal systems or components that has been stamped and sealed by a Professional Engineer who is licensed in the State where the Project is located. The submittal review shall not be construed as a complete check and indicates only that information presented has been reviewed for general conformance with design intent for the overall project. The Architect and/or its Consultant are entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by the responsible delegated-design professional.

- 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 unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- F. Architect will not review and will discard submittals received from sources other than Contractor.
- G. Unsolicited Submittals: Submittals not required by the Contract Documents will not be reviewed and will be discarded.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 013300**



**SECTION 014000 - 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 01 Specification Sections, apply to this Section.

**1.2 SUMMARY**

- A. This section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection 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 (AHJ) are not limited by provisions of this Section.
- C. Related Sections:
  - 1. Division 01, Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
  - 2. Divisions 02 through 33 Sections for specific test and inspection requirements.

**1.3 DEFINITIONS**

- A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five (5) 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.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

- C. 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, assembly, and similar operations.
1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Mockups: Full-size physical assemblies that are constructed on-site either as freestanding temporary built elements or as part of permanent construction. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and 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.
1. Laboratory Mockups: Full-size physical assemblies constructed and tested at testing facility to verify performance characteristics.
  2. Integrated Exterior Mockups: Mockups of the exterior envelope constructed on-site as freestanding temporary built elements or as indicated in-place portions of permanent construction, consisting of multiple products, assemblies, and subassemblies, with cutaways enabling inspection of concealed portions of the Work.
    - a. Include each system, assembly, component, and part of the exterior wall and roof (where applicable) to be constructed for the Project. Colors of components shall be those selected by the Architect for use in the Project.
  3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes; doors; windows; millwork; casework; specialties; furnishings and equipment; and lighting.
  4. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
  5. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.
- E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to Authorities Having Jurisdiction (AHJ), to establish product performance and compliance with specified requirements.
- G. 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.

- H. 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. Contractor's quality-control services do not include contract administration activities performed by Architect.
- I. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- J. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall have the same meaning as testing agency.

#### 1.4 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 Statement: Submit a statement, signed and sealed by the responsible design professional in the State where the Project is located, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

#### 1.5 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two (2) or more standards or requirements is specified and the standards or requirements 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, in writing, for clarification 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, in writing, for a decision before proceeding.

#### 1.6 ACTION SUBMITTALS

- A. Mockup Shop Drawings: For integrated exterior mockups.
  - 1. Include plans, sections, elevations, and details, indicating material types, interfacing with other elements and systems, and size of mockup construction.
  - 2. Indicate manufacturer and model number of individual components.

3. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

## 1.7 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by Authorities Having Jurisdiction, submit copy of written statement of responsibility submitted to Authorities Having Jurisdiction before starting work on the following systems:
  1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
  2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.
- B. 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.
- C. Permits, Licenses, and Certificates: For Owner's record, 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.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  1. Specification Section number and title.
  2. Description of test and inspection.
  3. Identification of applicable standards.
  4. Identification of test and inspection methods.
  5. Number of tests and inspections required.
  6. Time schedule or time span for tests and inspections.
  7. Entity responsible for performing tests and inspections.
  8. Requirements for obtaining samples.
  9. Unique characteristics of each quality-control service.

## 1.8 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, telephone number, and email address 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 inspection.
  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.

## 1.9 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. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- 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, applying, 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.
- 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 product that are similar in material, design, and extent to those indicated for this Project.
- 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 and Inspecting Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to ASTM E329; 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. **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 and test 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.
- J. 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 at locations and at size(s) recommended by Contractor and approved by Owner and Architect.
  2. Notify Architect and Owner seven (7) 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 to perform same tasks during the construction at Project.
  4. Demonstrate the proposed range of aesthetic effects and workmanship.
  5. Obtain Architect and Owner approval of mockups before starting corresponding work, fabrication, or construction.
    - a. Allow seven (7) days for initial review and each re-review of each mockup.
  6. Promptly correct unsatisfactory conditions noted by Architect's preliminary review, to the satisfaction of the Architect and Owner, before completion of final mockup.
  7. Approval of mockups by the Architect and Owner does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  8. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  9. Demolish and remove mockups when directed unless otherwise indicated.
- K. Integrated Exterior Mockups: Construct integrated exterior mockup according to approved Shop Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials. Comply with requirements in "Mockups" Paragraph.
1. Coordinate construction of the mockup to allow observation of air barrier installation, flashings, air barrier integration with fenestration systems, and other portions of the building air/moisture barrier and drainage assemblies, prior to installation of veneer, cladding elements, and other components that will obscure the work.
- L. Room Mockups: When required for this Project, construct room mockups according to approved Shop Drawings, incorporating required materials and assemblies, finished according to requirements. Provide required lighting and additional lighting where required to enable Architect to evaluate quality of the Work. Comply with requirements in "Mockups" Paragraph.
- 1.10 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 inspection they are engaged to perform.
  2. Costs for retesting and re-inspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
1. Engage a qualified testing agency to perform quality-control services.
    - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  2. Notify testing agencies at least twenty-four (24) hours in advance of time when Work that requires testing or inspection will be performed.
  3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  4. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  5. Submit additional copies of each written report directly to Authorities Having Jurisdiction, when they so direct.
- C. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. 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 locations 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 duties of Contractor.
- E. 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 01, Section "Submittal Procedures".



- F. **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.
- G. **Contractor's Associated Requirements and Services:** Cooperate with agencies and representatives 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 inspection. 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 inspection equipment at Project site.
- H. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
  - 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. Submit schedule within thirty (30) days of date established for commencement of the Work.
  - 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.

#### 1.11 SPECIAL TESTS AND INSPECTIONS

- A. **Special Tests and Inspections:** Owner will engage a qualified testing agency to conduct special tests and inspections required by Authorities Having Jurisdiction as the responsibility of Owner, 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 Owner, Architect and its Consultants, and Contractor promptly, in writing, 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 Owner, Architect and its Consultants, with copy to Contractor and to Authorities Having Jurisdiction.
  - 4. Submitting a final report of special tests and inspections at Substantial Completion, which 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 re-inspecting corrected Work.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION**

**3.1 TEST AND INSPECTION LOG**

- A. Test and Inspection Log: 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 revisions as they occur. Provide access to test and inspection log for Architect's and Authorities' Having Jurisdiction reference during normal working hours.
  1. Submit log at Project closeout as part of Project Record Documents.

**3.2 REPAIR AND PROTECTION**

- A. General: On completion of testing, inspection, 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.
  2. Comply with the Contract Document requirements for cutting and patching in Division 01, Section "Execution".
- 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 SECTION 014000**

**SECTION 014020 – FENESTRATION SYSTEM TESTING****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. This section includes:
  - 1. Administrative, procedural, and testing requirements for accomplishing the proper installation of exterior windows, doors, storefront assemblies, and other fenestration under wind driven rain event under severe rain conditions.
  - 2. Inspection and testing services shall be required to verify compliance with requirements specified or indicated in this Section. These services do not relieve Contractor of responsibility for compliance with contract document requirements.

**1.3 PREINSTALLATION MEETINGS**

- A. Preinstallation Water Penetration Conference: Conduct conference at Project site.
  - 1. Communicate with all trades performing work on the water penetration for fenestration prior to commencement of installations.

**1.4 RESPONSIBILITIES**

- A. Contractor Responsibility: Unless otherwise indicated as the responsibility of another identified entity, Contractor shall provide coordination of the trades, and the sequence of construction to ensure proper installation of the fenestration. Provide quality assurance procedures, testing and verification as specified herein. Facilitate inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by Authorities Having Jurisdiction (AHJ) or by the Owner. Costs for these services shall be included in the Contract Sum.
  - 1. Organize preconstruction meetings between the trades involved in the fenestration to discuss where each trade begins and ends and the responsibility and sequence of installation of all the air-tight joints, junctures, and transitions between materials, products and assemblies of products specified in the different sections, to be installed by the different trades.
- B. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:

1. Provide access to the Work.
  2. Furnish all incidental labor and facilities necessary to facilitate inspections and testing, including but not limited to constructing temporary chambers and/or partitions to permit testing, sealing/taping off portions of the building not included in the specified tests, etc.
  3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
  4. Deliver samples to testing laboratories.
  5. Provide security and protection of samples and test equipment at the Project Site.
- C. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
1. The Contractor shall be responsible for scheduling times for inspections, tests, taking samples, and similar activities.
  2. The Contractor shall develop a schedule for all required water penetration testing, including time allowance to prepare the building for testing and allow for testing to occur. Contractor shall ensure that the air barrier materials, assemblies, and systems are complete for the portions of the air barrier that will be tested for any given test. For partial building tests of units, or floors, the Contractor shall submit a protocol indicating how isolation of the area to be tested will be achieved that accounts for the expected completion of work at the time of testing.

## 1.5 PERFORMANCE REQUIREMENTS

- A.
1. Testing Methodology: Testing of doors for air infiltration and water resistance shall be performed according to AAMA 502.
  2. Air-Infiltration Testing:
    - a. Test Pressure: That required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance class indicated.
    - b. Allowable Air-Leakage Rate: 1.5 times the applicable AAMA/WDMA/CSA 101/I.S.2/A440 rate for product type and performance class rounded down to one decimal place.
  3. Water-Resistance Testing:
    - a. Test Pressure: Two-thirds times test pressure required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance grade indicated.
    - b. Allowable Water Infiltration: No water penetration.
  4. Testing Extent: Three (3) sliding patio doors of each type as selected by Architect and Owner and a qualified independent testing and inspecting agency. Doors shall be tested after perimeter sealants have cured.
  5. Test Reports: Prepared according to AAMA 502.

**1.6 ACTION SUBMITTALS**

- A. Owner's third-party fenestration system testing consultant shall submit certified written reports of each inspection, test, or similar service as follows:
1. Quantity: (3 each); Owner's consultant shall submit additional copies of each written report directly to the governing Authority Having Jurisdiction (AHJ), when the authority so directs.
  2. Field Report Data: Owner's consultant shall provide signed and dated written reports of each inspection, test, or similar service which shall include, but are not limited to, the following:
    - a. Sequentially Numbered.
    - b. Project Name.
    - c. Project Address.
    - d. Testing Agency: Name, address, and telephone number.
    - e. Dates and locations of samples and tests or inspections.
    - f. Date of Issuance.
    - g. Ambient conditions at the time of sample taking and testing.
    - h. Names of individuals making the inspection or test.
    - i. Name of Architectural Firm.
    - j. Architect's project number.
    - k. Designation of the Work and test method.
    - l. Identification of product and Specification Section.
    - m. Complete inspection or test data.
    - n. Test results and an interpretation of test results.
    - o. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
    - p. Recommendations on retesting.
    - q. Name and signature of laboratory inspector.

**1.7 QUALITY ASSURANCE**

- A. Qualifications for Water Penetration Testing and Inspection Agencies: Contractor shall engage building envelope inspection and testing service agencies, including independent testing laboratories, that are pre-qualified and that specialize in the types of fenestration system inspections and tests to be performed.
- B. Qualification Data: For field testing agency.
1. Testing agency shall have at least ten (10) years' experience for Project of this type and scale.
- C. Field quality-control reports.
- D. Purchase Order for Window and Door Assemblies:
1. Water Resistance Field Test Pressure should be placed on the purchase order prior to ordering the window and door assemblies.

**1.8 CLOSEOUT SUBMITTALS**

Test Reports: Include in maintenance manuals.

**PART 2 - PRODUCTS (NOT USED)****PART 3 - EXECUTION****3.1 REPAIR AND PROTECTION**

- A. Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes.
- B. Protect construction exposed in the course of quality-control service activities, and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

**3.2 TESTING AND INSPECTION**

- A. Contractor shall engage and hire a testing and inspection agency to provide periodic observation and inspection during installation of the fenestration system. The testing and inspection agency shall provide the following services as a minimum:
  - 1. Qualitative Testing and Inspection:
    - a. Provide reports of observations, with copies to the Contractor, Owner and Architect.
    - b. Verify continuity of seal around fenestration system with no gaps or holes.
    - c. Verify structural support of the fenestration system to withstand design air pressures.
    - d. Verify site conditions for application temperature and dryness of substrates.
    - e. Verify surfaces are properly primed.
    - f. Verify laps in material are appropriate, shingled in the correct direction, with no fish mouths.
    - g. Verify roller has been used to enhance adhesion as may be appropriate.
    - h. Measure application thickness of liquid-applied materials to manufacturer's specifications for the specific substrate.
    - i. Verify materials used for compatibility.
    - j. Verify connections between assemblies (fenestration and sealants) for cleaning, preparation and priming of surfaces, structural support, integrity and continuity of materials being provided and installed.
- B. Contractor shall engage a qualified testing agency to perform both quantitative field testing of the fenestration system during the course of construction. The following testing protocols shall be followed:

1. Water penetration Resistance Field Testing per ASTM E 1105.
  - a. Test Preparation:
    - 1) Allow two weeks in advance of testing, Contractor shall coordinate a pre-testing walkthrough with the testing agency.
    - 2) Contractor shall be familiarize with ASTM E 1105.
    - 3) Contractor shall provide temporary enclosures to seal off areas not included in the test parameters.
    - 4) Contractor shall undertake any re-sealing and modifications of temporary enclosures to the testing agencies satisfaction.
  - b. Testing Protocol:
    - 1) At least one (1) window of each operational type shall be tested to the Specified Field Test Pressure
    - 2) Pass the minimum Water Resistance Field Test Pressure (during field test).
    - 3) For fenestrations of aluminum windows:
      - a) Procedure B (cyclic) test: Shall be used for 4 cycles each 5 minutes in duration, with a pressure reduced to 0 psf for one minute between cycles.
    - 4) For storefront assemblies:
      - a) Procedure A (Uniform) test: Shall be used for a single cycle not less than 20 minutes in duration.
  - c. Testing Failure (defined in ASTM E 1105):
    - 1) The representative sample shall be expanded to five (5) specimens; in order to obtain statistical confidence in remedial repairs if needed.
    - 2) In the case of failure, the responsible party will be held financially liable for the cost of retesting, and any related wall assembly or cladding deconstruction needed to obtain passing results.
  - d. This test specification supersedes AAMA Voluntary Specification for Field Testing.
  - e. Doors are shall be installed and tested in a similar fashion as windows.

### 3.3 RETURN TO SERVICE:

- A. All isolations shall be removed following the tests in order to restore the various building systems to normal operational status.

**END OF SECTION 014020**

**SECTION 014200 - 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.
  - 1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.
- 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. The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.
  - 1. AABC - Associated Air Balance Council; [www.aabc.com](http://www.aabc.com).
  - 2. AAMA - American Architectural Manufacturers Association; [www.aamanet.org](http://www.aamanet.org).
  - 3. AAPFCO - Association of American Plant Food Control Officials; [www.aapfco.org](http://www.aapfco.org).
  - 4. AASHTO - American Association of State Highway and Transportation Officials; [www.transportation.org](http://www.transportation.org).
  - 5. AATCC - American Association of Textile Chemists and Colorists; [www.aatcc.org](http://www.aatcc.org).
  - 6. ABMA - American Bearing Manufacturers Association; [www.americanbearings.org](http://www.americanbearings.org).
  - 7. ABMA - American Boiler Manufacturers Association; [www.abma.com](http://www.abma.com).
  - 8. ACI - American Concrete Institute; (Formerly: ACI International); [www.concrete.org](http://www.concrete.org).
  - 9. ACPA - American Concrete Pipe Association; [www.concrete-pipe.org](http://www.concrete-pipe.org).
  - 10. AEIC - Association of Edison Illuminating Companies, Inc. (The); [www.aeic.org](http://www.aeic.org).
  - 11. AF&PA - American Forest & Paper Association; [www.afandpa.org](http://www.afandpa.org).
  - 12. AGA - American Gas Association; [www.aga.org](http://www.aga.org).
  - 13. AHAM - Association of Home Appliance Manufacturers; [www.aham.org](http://www.aham.org).
  - 14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); [www.ahrinet.org](http://www.ahrinet.org).
  - 15. AI - Asphalt Institute; [www.asphaltinstitute.org](http://www.asphaltinstitute.org).
  - 16. AIA - American Institute of Architects (The); [www.aia.org](http://www.aia.org).
  - 17. AISC - American Institute of Steel Construction; [www.aisc.org](http://www.aisc.org).
  - 18. AISI - American Iron and Steel Institute; [www.steel.org](http://www.steel.org).
  - 19. AITC - American Institute of Timber Construction; [www.aitc-glulam.org](http://www.aitc-glulam.org).
  - 20. AMCA - Air Movement and Control Association International, Inc.; [www.amca.org](http://www.amca.org).
  - 21. ANSI - American National Standards Institute; [www.ansi.org](http://www.ansi.org).
  - 22. AOSA - Association of Official Seed Analysts, Inc.; [www.aosaseed.com](http://www.aosaseed.com).
  - 23. APA - APA - The Engineered Wood Association; [www.apawood.org](http://www.apawood.org).
  - 24. APA - Architectural Precast Association; [www.archprecast.org](http://www.archprecast.org).

25. API - American Petroleum Institute; [www.api.org](http://www.api.org).
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; [www.asphaltroofing.org](http://www.asphaltroofing.org).
29. ASCE - American Society of Civil Engineers; [www.asce.org](http://www.asce.org).
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; [www.ashrae.org](http://www.ashrae.org).
32. ASME - ASME International; (American Society of Mechanical Engineers); [www.asme.org](http://www.asme.org).
33. ASSE - American Society of Sanitary Engineering; [www.asse-plumbing.org](http://www.asse-plumbing.org).
34. ASSP - American Society of Safety Professionals (The); [www.assp.org](http://www.assp.org).
35. ASTM - ASTM International; [www.astm.org](http://www.astm.org).
36. ATIS - Alliance for Telecommunications Industry Solutions; [www.atis.org](http://www.atis.org).
37. AVIXA - Audiovisual and Integrated Experience Association; (Formerly: Infocomm International); [www.soundandcommunications.com](http://www.soundandcommunications.com).
38. AWEA - American Wind Energy Association; [www.awea.org](http://www.awea.org).
39. AWI - Architectural Woodwork Institute; [www.awinet.org](http://www.awinet.org).
40. AWMAC - Architectural Woodwork Manufacturers Association of Canada; [www.awmac.com](http://www.awmac.com).
41. AWPAA - American Wood Protection Association; [www.awpa.com](http://www.awpa.com).
42. AWS - American Welding Society; [www.aws.org](http://www.aws.org).
43. AWWA - American Water Works Association; [www.awwa.org](http://www.awwa.org).
44. BHMA - Builders Hardware Manufacturers Association; [www.buildershardware.com](http://www.buildershardware.com).
45. BIA - Brick Industry Association (The); [www.gobrick.com](http://www.gobrick.com).
46. BICSI - BICSI, Inc.; [www.bicsi.org](http://www.bicsi.org).
47. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); [www.bifma.org](http://www.bifma.org).
48. BISSC - Baking Industry Sanitation Standards Committee; [www.bissc.org](http://www.bissc.org).
49. BWF - Badminton World Federation; (Formerly: International Badminton Federation); [www.bissc.org](http://www.bissc.org).
50. CDA - Copper Development Association; [www.copper.org](http://www.copper.org).
51. CE - Conformite Europeenne; <http://ec.europa.eu/growth/single-market/ce-marking/>.
52. CEA - Canadian Electricity Association; [www.electricity.ca](http://www.electricity.ca).
53. CFFA - Chemical Fabrics and Film Association, Inc.; [www.chemicalfabricsandfilm.com](http://www.chemicalfabricsandfilm.com).
54. CFSEI - Cold-Formed Steel Engineers Institute; [www.cfsei.org](http://www.cfsei.org).
55. CGA - Compressed Gas Association; [www.cganet.com](http://www.cganet.com).
56. CIMA - Cellulose Insulation Manufacturers Association; [www.cellulose.org](http://www.cellulose.org).
57. CISCA - Ceilings & Interior Systems Construction Association; [www.cisca.org](http://www.cisca.org).
58. CISPI - Cast Iron Soil Pipe Institute; [www.cispi.org](http://www.cispi.org).
59. CLFMI - Chain Link Fence Manufacturers Institute; [www.chainlinkinfo.org](http://www.chainlinkinfo.org).
60. CPA - Composite Panel Association; [www.compositepanel.org](http://www.compositepanel.org).
61. CRI - Carpet and Rug Institute (The); [www.carpet-rug.org](http://www.carpet-rug.org).
62. CRRC - Cool Roof Rating Council; [www.coolroofs.org](http://www.coolroofs.org).
63. CRSI - Concrete Reinforcing Steel Institute; [www.crsi.org](http://www.crsi.org).
64. CSA - CSA Group; [www.csa-group.org](http://www.csa-group.org).
65. CSI - Construction Specifications Institute (The); [www.csiresources.org](http://www.csiresources.org).
66. CSSB - Cedar Shake & Shingle Bureau; [www.cedarbureau.org](http://www.cedarbureau.org).
67. CTA - Consumer Technology Association; [www.cta.tech](http://www.cta.tech).

68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); [www.coolingtechnology.org](http://www.coolingtechnology.org).
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; [www.dasma.com](http://www.dasma.com).
71. DHA - Decorative Hardwoods Association; (Formerly: Hardwood Plywood & Veneer Association); [www.decorativehardwoods.org](http://www.decorativehardwoods.org).
72. DHI - Door and Hardware Institute; [www.dhi.org](http://www.dhi.org).
73. ECA - Electronic Components Association; (See ECIA).
74. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
75. ECIA - Electronic Components Industry Association; [www.eciaonline.org](http://www.eciaonline.org).
76. EIA - Electronic Industries Alliance; (See TIA).
77. EIMA - EIFS Industry Members Association; [www.eima.com](http://www.eima.com).
78. EJMA - Expansion Joint Manufacturers Association, Inc.; [www.ejma.org](http://www.ejma.org).
79. EOS/ESD Association; (Electrostatic Discharge Association); [www.esda.org](http://www.esda.org).
80. ESTA - Entertainment Services and Technology Association; (See PLASA).
81. ETL - Intertek (See Intertek); [www.intertek.com](http://www.intertek.com).
82. EVO - Efficiency Valuation Organization; [www.evo-world.org](http://www.evo-world.org).
83. FCI - Fluid Controls Institute; [www.fluidcontrolsinstitute.org](http://www.fluidcontrolsinstitute.org).
84. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); [www.fiba.com](http://www.fiba.com).
85. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); [www.fivb.org](http://www.fivb.org).
86. FM Approvals - FM Approvals LLC; [www.fmglobal.com](http://www.fmglobal.com).
87. FM Global - FM Global; (Formerly: FMG - FM Global); [www.fmglobal.com](http://www.fmglobal.com).
88. FRSA - Florida Roofing, Sheet Metal Contractors Association, Inc.; [www.floridarooft.com](http://www.floridarooft.com).
89. FSA - Fluid Sealing Association; [www.fluidsealing.com](http://www.fluidsealing.com).
90. FSC - Forest Stewardship Council U.S.; [www.fscus.org](http://www.fscus.org).
91. GA - Gypsum Association; [www.gypsum.org](http://www.gypsum.org).
92. GANA - Glass Association of North America; (See NGA).
93. GS - Green Seal; [www.greenseal.org](http://www.greenseal.org).
94. HI - Hydraulic Institute; [www.pumps.org](http://www.pumps.org).
95. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
96. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
97. HPVA - Hardwood Plywood & Veneer Association; (See DHA).
98. HPW - H. P. White Laboratory, Inc.; [www.hpwhite.com](http://www.hpwhite.com).
99. IAPSC - International Association of Professional Security Consultants; [www.iapsc.org](http://www.iapsc.org).
100. IAS - International Accreditation Service; [www.iasonline.org](http://www.iasonline.org).
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
103. ICEA - Insulated Cable Engineers Association, Inc.; [www.icea.net](http://www.icea.net).
104. ICPA - International Cast Polymer Alliance; [www.icpa-hq.org](http://www.icpa-hq.org).
105. ICRI - International Concrete Repair Institute, Inc.; [www.icri.org](http://www.icri.org).
106. IEC - International Electrotechnical Commission; [www.iec.ch](http://www.iec.ch).
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); [www.ieee.org](http://www.ieee.org).
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); [www.ies.org](http://www.ies.org).
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; [www.iest.org](http://www.iest.org).
111. IGMA - Insulating Glass Manufacturers Alliance; [www.igmaonline.org](http://www.igmaonline.org).
112. IGSHPA - International Ground Source Heat Pump Association; [www.igshpa.org](http://www.igshpa.org).

113. II - Infocomm International; (See AVIXA).
114. ILI - Indiana Limestone Institute of America, Inc.; [www.ili.ai.com](http://www.ili.ai.com).
115. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); [www.intertek.com](http://www.intertek.com).
116. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); [www.isa.org](http://www.isa.org).
117. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
118. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); [www.isfanow.org](http://www.isfanow.org).
119. ISO - International Organization for Standardization; [www.iso.org](http://www.iso.org).
120. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
121. ITU - International Telecommunication Union; [www.itu.int/home](http://www.itu.int/home).
122. KCMA - Kitchen Cabinet Manufacturers Association; [www.kcma.org](http://www.kcma.org).
123. LMA - Laminating Materials Association; (See CPA).
124. LPI - Lightning Protection Institute; [www.lightning.org](http://www.lightning.org).
125. MBMA - Metal Building Manufacturers Association; [www.mbma.com](http://www.mbma.com).
126. MCA - Metal Construction Association; [www.metalconstruction.org](http://www.metalconstruction.org).
127. MFMA - Maple Flooring Manufacturers Association, Inc.; [www.maplefloor.org](http://www.maplefloor.org).
128. MFMA - Metal Framing Manufacturers Association, Inc.; [www.metalframingmfg.org](http://www.metalframingmfg.org).
129. MHIA - Material Handling Industry of America; [www.mhia.org](http://www.mhia.org).
130. MIA - Marble Institute of America; (See NSI).
131. MMPA - Moulding & Millwork Producers Association; [www.wmmpa.com](http://www.wmmpa.com).
132. MPI - Master Painters Institute; [www.paintinfo.com](http://www.paintinfo.com).
133. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; [www.mss-hq.org](http://www.mss-hq.org).
134. NAAMM - National Association of Architectural Metal Manufacturers; [www.naamm.org](http://www.naamm.org).
135. NACE - NACE International; (National Association of Corrosion Engineers International); [www.nace.org](http://www.nace.org).
136. NADCA - National Air Duct Cleaners Association; [www.nadca.com](http://www.nadca.com).
137. NAIMA - North American Insulation Manufacturers Association; [www.naima.org](http://www.naima.org).
138. NALP - National Association of Landscape Professionals; [www.landscapeprofessionals.org](http://www.landscapeprofessionals.org).
139. NBGQA - National Building Granite Quarries Association, Inc.; [www.nbgqa.com](http://www.nbgqa.com).
140. NBI - New Buildings Institute; [www.newbuildings.org](http://www.newbuildings.org).
141. NCAA - National Collegiate Athletic Association (The); [www.ncaa.org](http://www.ncaa.org).
142. NCMA - National Concrete Masonry Association; [www.ncma.org](http://www.ncma.org).
143. NEBB - National Environmental Balancing Bureau; [www.nebb.org](http://www.nebb.org).
144. NECA - National Electrical Contractors Association; [www.necanet.org](http://www.necanet.org).
145. NeLMA - Northeastern Lumber Manufacturers Association; [www.nelma.org](http://www.nelma.org).
146. NEMA - National Electrical Manufacturers Association; [www.nema.org](http://www.nema.org).
147. NETA - InterNational Electrical Testing Association; [www.netaworld.org](http://www.netaworld.org).
148. NFHS - National Federation of State High School Associations; [www.nfhs.org](http://www.nfhs.org).
149. NFPA - National Fire Protection Association; [www.nfpa.org](http://www.nfpa.org).
150. NFPA - NFPA International; (See NFPA).
151. NFRC - National Fenestration Rating Council; [www.nfrc.org](http://www.nfrc.org).
152. NGA - National Glass Association (The); (Formerly: Glass Association of North America); [www.glass.org](http://www.glass.org).
153. NHLA - National Hardwood Lumber Association; [www.nhla.com](http://www.nhla.com).
154. NLGA - National Lumber Grades Authority; [www.nlga.org](http://www.nlga.org).
155. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).

156. NOMMA - National Ornamental & Miscellaneous Metals Association; [www.nomma.org](http://www.nomma.org).
157. NRCA - National Roofing Contractors Association; [www.nrca.net](http://www.nrca.net).
158. NRMCA - National Ready Mixed Concrete Association; [www.nrmca.org](http://www.nrmca.org).
159. NSF - NSF International; [www.nsf.org](http://www.nsf.org).
160. NSI - National Stone Institute; (Formerly: Marble Institute of America); [www.naturalstoneinstitute.org](http://www.naturalstoneinstitute.org).
161. NSPE - National Society of Professional Engineers; [www.nspe.org](http://www.nspe.org).
162. NSSGA - National Stone, Sand & Gravel Association; [www.nssga.org](http://www.nssga.org).
163. NTMA - National Terrazzo & Mosaic Association, Inc. (The); [www.ntma.com](http://www.ntma.com).
164. NWFA - National Wood Flooring Association; [www.nwfa.org](http://www.nwfa.org).
165. PCI - Precast/Prestressed Concrete Institute; [www.pci.org](http://www.pci.org).
166. PDI - Plumbing & Drainage Institute; [www.pdionline.org](http://www.pdionline.org).
167. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); [www.plasa.org](http://www.plasa.org).
168. RCSC - Research Council on Structural Connections; [www.boltcouncil.org](http://www.boltcouncil.org).
169. RFCI - Resilient Floor Covering Institute; [www.rfci.com](http://www.rfci.com).
170. RIS - Redwood Inspection Service; [www.redwoodinspection.com](http://www.redwoodinspection.com).
171. SAE - SAE International; [www.sae.org](http://www.sae.org).
172. SCTE - Society of Cable Telecommunications Engineers; [www.scte.org](http://www.scte.org).
173. SDI - Steel Deck Institute; [www.sdi.org](http://www.sdi.org).
174. SDI - Steel Door Institute; [www.steeldoor.org](http://www.steeldoor.org).
175. SEFA - Scientific Equipment and Furniture Association (The); [www.sefalabs.com](http://www.sefalabs.com).
176. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
177. SIA - Security Industry Association; [www.siaonline.org](http://www.siaonline.org).
178. SJI - Steel Joist Institute; [www.steeljoist.org](http://www.steeljoist.org).
179. SMA - Screen Manufacturers Association; [www.smainfo.org](http://www.smainfo.org).
180. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; [www.smacna.org](http://www.smacna.org).
181. SMPTE - Society of Motion Picture and Television Engineers; [www.smpte.org](http://www.smpte.org).
182. SPFA - Spray Polyurethane Foam Alliance; [www.sprayfoam.org](http://www.sprayfoam.org).
183. SPIB - Southern Pine Inspection Bureau; [www.spib.org](http://www.spib.org).
184. SPRI - Single Ply Roofing Industry; [www.spri.org](http://www.spri.org).
185. SRCC - Solar Rating & Certification Corporation; [www.solar-rating.org](http://www.solar-rating.org).
186. SSINA - Specialty Steel Industry of North America; [www.ssina.com](http://www.ssina.com).
187. SSPC - SSPC: The Society for Protective Coatings; [www.sspc.org](http://www.sspc.org).
188. STI - Steel Tank Institute; [www.steeltank.com](http://www.steeltank.com).
189. SWI - Steel Window Institute; [www.steelwindows.com](http://www.steelwindows.com).
190. SWPA - Submersible Wastewater Pump Association; [www.swpa.org](http://www.swpa.org).
191. TCA - Tilt-Up Concrete Association; [www.tilt-up.org](http://www.tilt-up.org).
192. TCNA - Tile Council of North America, Inc.; [www.tileusa.com](http://www.tileusa.com).
193. TEMA - Tubular Exchanger Manufacturers Association, Inc.; [www.tema.org](http://www.tema.org).
194. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); [www.tiaonline.org](http://www.tiaonline.org).
195. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
196. TMS - The Masonry Society; [www.masonrysociety.org](http://www.masonrysociety.org).
197. TPI - Truss Plate Institute; [www.tpinst.org](http://www.tpinst.org).
198. TPI - Turfgrass Producers International; [www.turfgrasssod.org](http://www.turfgrasssod.org).
199. TRI - Tile Roofing Institute; [www.tilerroofing.org](http://www.tilerroofing.org).



200. UL - Underwriters Laboratories Inc.; [www.ul.com](http://www.ul.com).
201. UNI - Uni-Bell PVC Pipe Association; [www.uni-bell.org](http://www.uni-bell.org).
202. USAV - USA Volleyball; [www.usavolleyball.org](http://www.usavolleyball.org).
203. USGBC - U.S. Green Building Council; [www.usgbc.org](http://www.usgbc.org).
204. USITT - United States Institute for Theatre Technology, Inc.; [www.usitt.org](http://www.usitt.org).
205. WA - Wallcoverings Association; [www.wallcoverings.org](http://www.wallcoverings.org).
206. WASTEC - Waste Equipment Technology Association; [www.wastec.org](http://www.wastec.org).
207. WCLIB - West Coast Lumber Inspection Bureau; [www.wclib.org](http://www.wclib.org).
208. WCMA - Window Covering Manufacturers Association; [www.wcmanet.org](http://www.wcmanet.org).
209. WDMA - Window & Door Manufacturers Association; [www.wdma.com](http://www.wdma.com).
210. WI - Woodwork Institute; [www.wicnet.org](http://www.wicnet.org).
211. WSRCA - Western States Roofing Contractors Association; [www.wsrca.com](http://www.wsrca.com).
212. WWPA - Western Wood Products Association; [www.wwpa.org](http://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 Institut fur Normung e.V.; [www.din.de](http://www.din.de).
2. IAPMO - International Association of Plumbing and Mechanical Officials; [www.iapmo.org](http://www.iapmo.org).
3. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
4. ICC-ES - ICC Evaluation Service, LLC; [www.icc-es.org](http://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](http://www.usace.army.mil).
2. CPSC - Consumer Product Safety Commission; [www.cpsc.gov](http://www.cpsc.gov).
3. DOC - Department of Commerce; National Institute of Standards and Technology; [www.nist.gov](http://www.nist.gov).
4. DOD - Department of Defense; [www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).
5. DOE - Department of Energy; [www.energy.gov](http://www.energy.gov).
6. EPA - Environmental Protection Agency; [www.epa.gov](http://www.epa.gov).
7. FAA - Federal Aviation Administration; [www.faa.gov](http://www.faa.gov).
8. FG - Federal Government Publications; [www.gpo.gov/fdsys](http://www.gpo.gov/fdsys).
9. GSA - General Services Administration; [www.gsa.gov](http://www.gsa.gov).
10. HUD - Department of Housing and Urban Development; [www.hud.gov](http://www.hud.gov).
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; [www.eetd.lbl.gov](http://www.eetd.lbl.gov).
12. OSHA - Occupational Safety & Health Administration; [www.osha.gov](http://www.osha.gov).
13. SD - Department of State; [www.state.gov](http://www.state.gov).
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; [www.trb.org](http://www.trb.org).
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; [www.ars.usda.gov](http://www.ars.usda.gov).
16. USDA - Department of Agriculture; Rural Utilities Service; [www.usda.gov](http://www.usda.gov).
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; [www.ojp.usdoj.gov](http://www.ojp.usdoj.gov).
18. USP - U.S. Pharmacopeial Convention; [www.usp.org](http://www.usp.org).

19. USPS - United States Postal Service; [www.usps.com](http://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. CFR - Code of Federal Regulations; Available from Government Printing Office; [www.govinfo.gov](http://www.govinfo.gov).
  2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; [www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).
  3. DSCC - Defense Supply Center Columbus; (See FS).
  4. FED-STD - Federal Standard; (See FS).
  5. FS - Federal Specification; Available from DLA Document Services; [www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).
    - a. Available from Defense Standardization Program; [www.dsp.dla.mil](http://www.dsp.dla.mil).
    - b. Available from General Services Administration; [www.gsa.gov](http://www.gsa.gov).
    - c. Available from National Institute of Building Sciences/Whole Building Design Guide; [www.wbdg.org](http://www.wbdg.org).
  6. MILSPEC - Military Specification and Standards; (See DOD).
  7. USAB - United States Access Board; [www.access-board.gov](http://www.access-board.gov).
  8. 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. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; [www.bearhfti.ca.gov](http://www.bearhfti.ca.gov).
  2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; [www.calregs.com](http://www.calregs.com).
  3. CDHS; California Department of Health Services; (See CDPH).
  4. CDPH; California Department of Public Health; Indoor Air Quality Program; [www.cal-iaq.org](http://www.cal-iaq.org).
  5. CPUC; California Public Utilities Commission; [www.cpuc.ca.gov](http://www.cpuc.ca.gov).
  6. SCAQMD; South Coast Air Quality Management District; [www.aqmd.gov](http://www.aqmd.gov).
  7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; [www.txforestservation.tamu.edu](http://www.txforestservation.tamu.edu).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 014200**

**SECTION 015000 - 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 01 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 Requirements:
  - 1. Division 01, Section "Summary" for work restrictions and limitations on utility interruptions.

**1.3 USE CHARGES**

- A. General: Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

**1.4 INFORMATIONAL SUBMITTALS**

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and Authorities Having Jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.



- D. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold. Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.
1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and requirements for replacing water-damaged Work.
  2. 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.
  3. Indicate methods to be used to avoid trapping water in finished work.
- E. Integrated Pest Management (IPM) Plan:
1. Definition: An approach to pest management that uses current, comprehensive information on the life cycles of pests and their interactions with the environment to identify and implement effective methods of pest control with the least possible hazard to people, property, and the environment.
  2. Plan shall describe procedures and controls for protecting resident, construction and materials from pests and rodents during construction and shall include the following:
    - a. Initial building and site inspection.
    - b. Developing an IPM Plan appropriate to the building, site, and local ecosystems to manage and/or mitigate pest and rodents at and around the Project site during construction.
    - c. Implementing the approved IPM Plan.
    - d. Documenting IPM services.
  3. After award of Contract and prior to the commencement of the Work, schedule and conduct meeting with Owner and Architect to discuss the proposed IPM Plan and to develop mutual understanding relative to details of environmental protection.
  4. Pesticides: When use of pesticides is approved by Owner, Contractor shall be responsible for application of pesticides according to the label.
    - a. Regulatory compliance.
      - 1) All pesticides used by the Contractor must be registered with the U.S. Environmental Protection Agency (EPA) and applicable jurisdictions.
      - 2) Transport, handling, and use of all pesticides shall be in strict accordance with the manufacturer's label instructions and all applicable laws and regulations.
    - b. Contractor shall not store any pesticide product in the project building(s) and site.
    - c. Prohibited Pesticides: Contractor shall not apply any pesticide product that has not been included in the approved IPM Plan or approved in writing by the Owner.
    - d. Minimization of Risk:

- 1) When pesticide use is necessary, Contractor shall employ the least risk pesticide, most precise application technique, and minimum quantity of pesticide necessary to achieve control.
- 2) Application of pesticides in any inside or outside area shall not occur unless visual inspection or monitoring devices indicate the presence of pests in that specific area.
- 3) Recommendations for preventive pesticide treatments in areas where inspection indicates a potential insect or rodent infestation will be evaluated by the Owner on a case-by-case basis. Written approval must be granted by the Owner prior to any preventive pesticide application.
- 4) Notification: Contractor shall notify Owner at least forty-eight (48) hours in advance of the application of any pesticide. Exceptions may be made for applications made for emergencies, where an imminent threat to health exists (e.g., stinging insects). For emergency applications, notification must be made as soon as practical.

## 1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for Authorities Having Jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

## 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. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
- B. Temporary Scaffolding and Shoring: As may be required for this Project, the Contractor shall provide OSHA approved temporary scaffolding and shoring during the course of construction to accommodate installation of Project elements and construction operation activities for this Project.

## 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 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

### 3.2 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.
- C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

### 3.3 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. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
- C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash 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.

### 3.4 SUPPORT FACILITIES INSTALLATION

- A. Comply with the following:

- B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations.
  - 1. Provide dust-control treatment that is nonpolluting and non-tracking. Reapply treatment as required to minimize dust.
- C. Traffic Controls: Comply with requirements of Authorities Having Jurisdiction.
  - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
  - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- D. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- E. Storage and Staging: Use Owner designated areas of Project site for storage and staging needs.
- F. Dewatering Facilities and Drains: Comply with requirements of Authorities Having Jurisdiction. Maintain Project site, excavations, and construction free of water.
  - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
  - 2. Remove snow and ice as required to minimize accumulations.
- G. Waste Disposal Facilities: Comply with requirements specified in Division 01, Section "Construction Waste Management and Disposal."
- H. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of Authorities Having Jurisdiction. Comply with progress cleaning requirements in Division 01, Section "Execution."
- I. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
  - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

### 3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
  - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. 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.
- C. Temporary Erosion and Sedimentation Control: Comply with requirements of EPA Construction General Permit or Authorities Having Jurisdiction, whichever is more stringent.

- D. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of EPA Construction General Permit or Authorities Having Jurisdiction, whichever is more stringent.
  - 1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
  - 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
  - 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
  - 4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- E. 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.
- F. Tree and Plant Protection: Comply with requirements specified in Division 01, Section "Temporary Tree and Plant Protection."
- G. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- H. 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. Perform control operations lawfully, using materials approved by Authorities Having Jurisdiction.
- I. 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 workday.
- J. Barricades, Warning Signs, and Lights: Comply with requirements of Authorities Having Jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- K. Temporary Egress: Provide temporary egress from existing occupied facilities as indicated and as required by Authorities Having Jurisdiction. Provide signage directing occupants to temporary egress.
- L. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
  - 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.
- M. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner and 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. Provide walk-off mats at each entrance through temporary partition.
- N. 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; manage fire-prevention program.
1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
  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.

### 3.6 MOISTURE AND MOLD CONTROL

- A. Moisture and Mold Protection: Protect stored materials and installed Work in accordance with Moisture and Mold Protection Plan.
- B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
1. Protect porous materials from water damage.
  2. Protect stored and installed material from flowing or standing water.
  3. Keep porous and organic materials from coming into prolonged contact with concrete.
  4. Remove standing water from decks.
  5. Keep deck openings covered or dammed.
  - 6.

### 3.7 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 01, Section "Closeout Procedures."

**END OF SECTION 015000**

**SECTION 016000 - 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 01 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 Requirements:
  - 1. Division 01, Section "Substitution Request – form" to be used when requesting a substitution.
  - 2. Division 01, Section "References" for applicable industry standards for products specified.
  - 3. Division 01, Section "Substitution Procedures" for administrative and procedural requirements governing requests for product substitutions.
  - 4. Division 01, Section "Closeout Procedures" for administrative and procedural requirements for Substantial Completion procedures, Final Completion procedures, Warranties and Final Cleaning for Contract closeout.
  - 5. Divisions 02 through 33 Sections for specific requirements for warranties on products and installations specified to be warranted.

**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. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise. Products salvaged or recycled from other projects are not considered new products.
  - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process or where indicated as a product substitution, 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.

- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: A specification in which a single 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 other named manufacturers. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.
  - 1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.
- D. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- E. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
  - 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
  - 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- F. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Division, 01, Section "Submittal Procedures."
- G. Substitution: Refer to Division 01, Section "Substitution Procedures" for definition and limitations on substitutions.

#### 1.4 SUBMITTALS

- A. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.

1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
  2. Form: Tabulate information for each product under the following column headings:
    - a. Specification Section number and title.
    - b. Generic name used in the Contract Documents.
    - c. Proprietary name, model number, and similar designations.
    - d. Manufacturer's name and address.
    - e. Supplier's name and address.
    - f. Installer's name and address.
    - g. Projected delivery date or time span of delivery period.
    - h. Identification of items that require early submittal approval for scheduled delivery date.
  3. Initial Submittal: Within thirty (30) days after date of commencement of the Work, submit three (3) copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
    - a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
  4. Completed List: Within sixty (60) days after date of commencement of the Work, submit three (3) copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
  5. Architect's Action: Architect will respond in writing to Contractor within fifteen (15) days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.
- B. Comparable Product Requests: Submit three (3) 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. 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 fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
    - a. Form of Approval: As specified in Division 01, Section "Submittal Procedures".
    - b. Use product specified if Architect cannot make a decision on use of a comparable product request within time allocated.
- C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01, 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 ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Storage:
  - 1. Store products to allow for inspection and measurement of quantity or counting of units.
  - 2. Store materials in a manner that will not endanger Project structure.
  - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
  - 4. Store cementitious products and materials on elevated platforms.
  - 5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
  - 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
  - 7. Protect stored products from damage and liquids from freezing.
  - 8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location(s) with Owner.

## 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 standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
  2. Special Warranty: Written warranty required by the Contract Documents to extend time limit(s) provided by manufacturer's warranty or to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.
- 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 in the Project Manual, prepare a written document, using indicated form properly executed.
  3. Refer to Divisions 02 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01, 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 meeting requirements of the Contract Documents.
  4. Where products are accompanied by the term "as selected," Architect will make selection.
  5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
  6. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
  7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved", comply with provisions in Part 2 "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
1. Sole 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.

- a. Sole product may be indicated by the phrase “Subject to compliance with requirements, provide the following.”
2. Sole 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.
  - a. Sole manufacturer/source may be indicated by the phrase “Subject to compliance with requirements, provide products by the following.”
3. Limited List of Products: 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 not be considered.
  - a. Limited list of products may be indicated by the phrase “Subject to compliance with requirements, provide one of the following.”
4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.
  - a. Non-limited list of products is indicated by the phrase “Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following.”
  - b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.
5. Limited List of Manufacturers: 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 not be considered.
  - a. Limited list of manufacturers is indicated by the phrase “Subject to compliance with requirements, provide products by one of the following.”
6. Non-Limited List of Manufacturers: 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.
  - a. Non-limited list of manufacturers is indicated by the phrase “Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following.”
  - b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
7. 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 may additionally 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.

- a. For approval of products by unnamed manufacturers, comply with requirements in Division 01, Section “Substitution Procedures” for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require the phrase “match Architect's sample,” provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01, Section “Substitution Procedures” for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase “as selected by Architect from manufacturer's full range” or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.
- a. Standard Range: Where Specifications include the phrase “standard range of colors, patterns, textures” or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
  - b. Full Range: Where Specifications include the phrase “full range of colors, patterns, textures” or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.
- E. Sustainable Product Selection: Where Specifications require product to meet sustainable product characteristics, select products complying with indicated requirements. Comply with requirements in Division 01 sustainability requirements Section and individual Specification Sections.
1. Select products for which sustainable design documentation submittals are available from manufacturer.

## 2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: 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 the following requirements:
1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
  2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.

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.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation, as specified in Division 01, Section "Submittal Procedures."
1. Form of Approval of Submittal: As specified in Division 01, Section "Submittal Procedures."
  2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.
- D. Submittal Requirements, Single-Step Process: When acceptable to Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by the Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

**END OF SECTION 016000**

**SECTION 016550 – PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS****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. Quality Assurance.
  - 2. Product delivery.
  - 3. Product storage.
  - 4. Product handling.
  - 5. Protection of installed Products.
  - 6. Damaged Products.

**1.3 DEFINITIONS**

- A. Product: Materials, systems and equipment provided by Contractor.

**1.4 QUALITY ASSURANCE**

- A. Deliver in accordance with manufacturer's instructions, using means and methods that will limit damage, deterioration, loss, and theft.
- B. Source Limitations: Wherever possible, select related Products and Products of same kind from single source suppliers and manufacturers.
- C. Compatibility: Where Product choice is an option, furnish Product based upon compatibility with other Product options, specified Products, and approved Products.
- D. Where possible, provide interchangeable components by same manufacture for each Product.
- E. Labels and Nameplates: Do not permanently attach or imprint labels or trademarks on surfaces of Products exposed to view and at building exterior.
  - 1. This does not apply to operating instructions on equipment and life safety warning labels.
  - 2. Where labels are required to indicate code compliance, locate on inconspicuous surfaces.



**1.5 PRODUCT DELIVERY**

- A. Schedule Product deliveries to meet construction schedule and in time to facilitate inspection prior to installation.
- B. Associated cost increases due to failure to meet accelerated delivery schedules and deliveries of long lead-time products are responsibility of Contractor.
- C. Coordinate to avoid conflict with work and site conditions.
  - 1. Limit long term site storage, overcrowding of limited storage space, and conflict with available equipment and personnel for handling Products.
  - 2. Move site storage that interferes with work of separate contacts.
- D. Coordinate delivery to limit storage time for Product that are flammable, hazardous, easily damaged, subject to deterioration, or liable for theft or loss.
- E. Deliver Products in manufacturer's original protective containers or packaging, complete with intact and legible identifying labels and instructions for handling, storing, unpacking, protecting and installing.
- F. Clearly mark component parts of partial deliveries of Products to permit ease of identification, consolidation, and assembly.
- G. Promptly inspect shipment. Verify that quantities are correct and that products are protected and undamaged.

**1.6 PRODUCT STORAGE**

- A. Store Products immediately upon delivery, and protect until installed in the Work. Store in accordance with manufacturer's written instructions, with seals and labels intact and legible.
- B. Store sensitive Products in weather tight, climate-controlled environment, maintaining temperatures and humidity, favorable to Product.
- C. Store unpacked Products on shelves, in bins, or neatly stacked, accessible for inspection.
- D. For exterior storage of fabricated products, place on sloped platforms, blocking, or skids to support minimum 4 inches above ground.
- E. Cover Products subject to discoloration or deterioration with impervious sheet covering.
  - 1. Provide ventilation to avoid moisture condensation or potential degradation of Product.
  - 2. Avoid use of non-vented plastic or canvas shelters that could create humidity chambers.
- F. Store loose granular materials on solid surfaces such as paved areas, plywood, or sheet materials in a well-drain area. Prevent mixing with foreign matter.
- G. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

- H. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

#### 1.7 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle Products, including those furnished by Owner, by methods to prevent soiling, damage, or loss of Products and protective packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring, and other damage to Products and surrounding surfaces.
- C. Handle Products by methods to prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.

#### 1.8 PROTECTION OF INSTALLED PRODUCTS

- A. Protect installed Products to prevent damage from subsequent operations. Remove protective devices when no longer needed, prior to completion of work.
- B. Provide protective coverings and control traffic to prevent surface damage to finished installations. Make allowance to protect from subsequent work.

#### 1.9 DAMAGED PRODUCTS

- A. Promptly remove damaged and deteriorated Products from premises. Replace with new undamaged materials conforming to manufacturer's written recommendation.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**END OF SECTION 016550**

**SECTION 017300 - EXECUTION****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 general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
  - 1. Examination.
  - 2. Preparation.
  - 3. Construction Layout.
  - 4. Installation of the Work.
  - 5. Cutting and patching.
  - 6. Coordination of Owner's portion of the Work.
  - 7. Coordination of Owner-installed products.
  - 8. Progress cleaning.
  - 9. Starting and adjusting.
  - 10. Protection of installed construction.
- B. Related Requirements:
  - 1. Division 01, Section "Summary" for coordination of Owner-furnished products, Owner-performed work, Owner's separate contracts, and limits on use of Project site.
  - 2. Division 01, Section "Closeout Procedures" for final Project Record Documents and final cleaning.
  - 3. Division 02, Section "Selective Demolition" for demolition and removal of selected portions of the building.

**1.3 DEFINITIONS**

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

**1.4 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, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements 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.
  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.
  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 specified products and equipment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- 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 Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.
- C. 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 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, gas service piping, 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. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
  - 1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
  - 2. List of detrimental conditions, including substrates.
  - 3. List of unacceptable installation tolerances.
  - 4. Recommended corrections.
- D. 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 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, submit a request for information to Architect in accordance with requirements in Division 01, Section "Project Management and Coordination."

### 3.3 INSTALLATION

- A. 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 per code in occupied spaces and in unoccupied spaces, unless otherwise indicated on Drawings.
- 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 satisfactory results as judged by Architect. 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 of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels or noise levels above 95db, whichever is determined to be lower.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. 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 with manufacturer.

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.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.
1. Comply with Division 01, Section "Closeout Procedures" for repairing or removing and replacing defective Work.
- K. Hazardous Materials: Use products, cleaners, and installation materials that are not considered or known to be hazardous.

### 3.4 CUTTING AND PATCHING

- A. 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. 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.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. 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.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Division 01, Section "Summary."
- F. 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 prevent interruption to occupied areas.
- G. 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: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  4. 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.
  5. Proceed with patching after construction operations requiring cutting are complete.
- H. 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, as judged by Architect. 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 eliminate 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, corner to corner of wall and edge to edge of ceiling. 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 and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.



**3.5 COORDINATION OF OWNER'S PORTION OF THE WORK**

- A. Site Access: Provide access to Project site for Owner's construction personnel and Owner's separate contractors.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel and Owner's separate contractors.
  - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

**3.6 PROGRESS CLEANING**

- A. Clean Project site and work areas daily, including common areas. 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 (27 deg C).
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Use containers intended for holding waste materials of type to be stored.
  - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- 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: 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 01, Sections "Temporary Facilities and Controls" and "Construction Waste Management and Disposal".
- 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 ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### 3.7 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in the Contract Documents.
- 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 01, Section "Quality Requirements."

### 3.8 PROTECTION AND REPAIR 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. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- D. Comply with manufacturer's written instructions for temperature and relative humidity.

**END OF SECTION 017300**

**SECTION 017400 – CLEANING****PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section includes progress cleaning requirements for maintaining Project building(s) and site in a standard of cleanliness during construction period.
- B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- C. Related Sections:
  - 1. Division 01, Section “Temporary Facilities and Control”, for rodent and pest control, and removal of temporary facilities.
  - 2. Division 01, Section “Construction Waste Management and Disposal” administrative and procedural requirements for recycling nonhazardous demolition and construction waste and Disposing of nonhazardous demolition and construction waste.
  - 3. Division 01, Section “Closeout Procedures” for final cleaning requirements for Substantial Completion.

**1.2 QUALITY ASSURANCE**

- A. In addition to standards described in this Section, comply with applicable requirements of governmental agencies having jurisdiction.

**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.
- B. Personnel and Equipment: Provide personnel and equipment as needed to maintain specified standard of cleanliness.

**PART 3 - EXECUTION****3.1 PROGRESS CLEANING**

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. 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 materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 degrees F.
  3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to local jurisdictional regulations.
- 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 and safety 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. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- G. 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.
- H. 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.
- I. 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.

### 3.2 CLEANING

- A. Cleaning: "Cleaning," for purpose of this Section, except as may be specifically provided elsewhere, shall be interpreted as meaning level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- B. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

**END OF SECTION 017400**

**SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL****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. Implementation.
  - 2. Salvaging nonhazardous demolition and construction waste.
  - 3. Recycling nonhazardous demolition and construction waste (General).
  - 4. Recycling nonhazardous demolition and construction waste.
  - 5. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
  - 1. Division 02, Section "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.

**1.3 DEFINITIONS**

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

**1.4 ACTION SUBMITTALS**

- A. Waste Management Plan: Submit plan within seven (7) days of date established for the Notice to Proceed.

**1.5 INFORMATIONAL SUBMITTALS**

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:
  - 1. Material category.
  - 2. Generation point of waste.
  - 3. Total quantity of waste in tons (tonnes).
  - 4. Quantity of waste salvaged, both estimated and actual in tons (tonnes).
  - 5. Quantity of waste recycled, both estimated and actual in tons (tonnes).
  - 6. Total quantity of waste recovered (salvaged plus recycled) in tons (tonnes).
  - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. 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.

**1.6 QUALITY ASSURANCE**

- A. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements.

**1.7 WASTE MANAGEMENT PLAN**

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

- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
  - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
  - 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
  - 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
  - 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  - 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  - 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Contractor shall use “Best Practice” for handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
  - 1. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. 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 and recycled.
2. Comply with Division 01, Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

### 3.2 SALVAGING NONHAZARDOUS DEMOLITION AND CONSTRUCTION WASTE

- A. Comply with requirements in Division 02, Section "Selective Demolition" for salvaging nonhazardous demolition and construction waste.
- B. Salvaged Items for Reuse in the Work:
  1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
  3. Store items in a secure area until installation.
  4. Protect items from damage during transport and storage.
  5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- C. Salvaged Items for Sale and Donation: Not permitted on Project site without Owner's written approval.
- D. Salvaged Items for Owner's Use:
  1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
  3. Store items in a secure area until delivery to Owner.
  4. Transport items to Owner's storage area designated by Owner.
  5. Protect items from damage during transport and storage.

### 3.3 RECYCLING NONHAZARDOUS DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
  - a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

### 3.4 RECYCLING NONHAZARDOUS DEMOLITION AND CONSTRUCTION WASTE

- A. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
  1. Pulverize concrete to maximum 4-inch (100-mm) size (maximum).
- C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- D. Metals: Separate metals by type.
  1. Structural Steel: Stack members according to size, type of member, and length.
  2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- E. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.
- F. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
- G. Metal Suspension System: Separate metal members, including trim and other metals from acoustical panels and tile, and sort with other metals.
- H. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
  1. Store clean, dry carpet and pad in a closed container or trailer provided by carpet reclamation agency or carpet recycler.
- I. Carpet Tile: Remove debris, trash, and adhesive.
  1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by carpet reclamation agency or carpet recycler.

- J. Piping: Reduce piping to straight lengths and store by material and size. Separate supports, hangers, valves, sprinklers, and other components by material and size.
- K. Conduit: Reduce conduit to straight lengths and store by material and size.
- L. Lamps: Separate lamps by type and store according to requirements in 40 CFR 273.

### 3.5 RECYCLING NONHAZARDOUS DEMOLITION AND CONSTRUCTION WASTE

#### A. Packaging:

- 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
- 2. Polystyrene Packaging: Separate and bag materials.
- 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
- 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

#### B. Wood Materials:

- 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
- 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

#### C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

#### D. Paint: Seal containers and store by type.

### 3.6 DISPOSAL OF NONHAZARDOUS DEMOLITION AND CONSTRUCTION WASTE

#### A. General: Except for items or materials to be salvaged or recycled, 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. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.

#### C. Burning: Do not burn waste materials.

## END OF SECTION 017419

## **SECTION 017700 - 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 01 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.
  - 5. Repair of the Work.
- B. Related Requirements:
  - 1. Division 01, Section "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
  - 2. Division 01, Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 3. Division 01, Section "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

#### **1.3 ACTION SUBMITTALS**

- A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- B. Certified List of Incomplete Items: Final submittal at Final Completion.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Certificates of Release: From Authorities Having Jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest-control inspection.

**1.5 MAINTENANCE MATERIAL SUBMITTALS**

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

**1.6 SUBSTANTIAL COMPLETION PROCEDURES**

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting Architect's observation for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Certificates of Release: Obtain and submit releases from Authorities Having Jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals.
  3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
  5. Submit testing, adjusting, and balancing records.
  6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting Architect's observation for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  2. Complete final cleaning requirements.
  3. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Substantial Completion Site Observation: Submit a written request for Architect to execute a site observation visit determine if the Project is Substantially Completion a minimum of ten (10) days prior to date the Work will be completed and ready for final observation. On receipt of request, Architect will either proceed with the site observation or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after the site observation or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Follow-up Observation(s): Request follow-up observation(s) when the Work identified in previous observations as incomplete is completed or corrected.
2. Results of completed site observations will form the basis of requirements for final completion.

## 1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final observation for determining Final Completion, complete the following:
  1. Submit a final Application for Payment in accordance with Division 01, Section "Payment Procedures."
  2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Submit pest-control final inspection report.
- B. Architect's Site Observations: Submit a written request for Architect's final observation to determine acceptance a minimum of ten (10) days prior to date the Work will be completed and ready for final observation. On receipt of request, Architect will either proceed with the site observation or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after their site observation or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
  1. Follow-up Observation(s): Request follow-up observations when the Work identified in previous observations as incomplete is completed or corrected.

## 1.8 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.
  1. Organize list of spaces in sequential order, starting with exterior areas first and then proceeding from lowest floor to highest floor, listed by room or space number.
  2. Organize items applying to each space by major element, including categories for ceilings, 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 Architect.
    - d. Name of Contractor.
    - e. Page number.
  4. Submit list of incomplete items in the following format:

- a. PDF Electronic File: Architect will return annotated file.

## 1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
  1. Submit on digital media acceptable to Architect.
- D. Warranties in Paper Form:
  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 (215-by-280-mm) 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.
- E. 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.
  1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

**PART 3 - EXECUTION****3.1 FINAL CLEANING**

- A. 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 Architect's final site observation for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
    - b. 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.
    - c. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - d. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
    - e. Vacuum and mop concrete.
    - f. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
    - g. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
    - h. Remove labels that are not permanent.
    - i. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
    - j. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste-disposal requirements in Division 01, Sections "Temporary Facilities and Controls" and "Construction Waste Management and Disposal".

**3.2 REPAIR OF THE WORK**

- A. Complete repair and restoration operations required by Division 01, Section "Execution" before requesting Architect's observation for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces and touching up with matching materials. Where damaged or worn items cannot be repaired or restored, provide replacements. Restore damaged construction and permanent facilities used during construction to specified condition.
  - 1. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.



2. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

**END OF SECTION 017700**

**SECTION 017823 - OPERATION AND MAINTENANCE DATA****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 preparing operation and maintenance manuals, including the following:
  - 1. Closeout Submittals (separate Operation and Maintenance manuals).
  - 2. Operation and maintenance documentation directory manuals.
  - 3. Requirements for Emergency, Operation, and Maintenance Manuals.
  - 4. Emergency manuals (separate manual).
  - 5. Systems and equipment operation manuals (content and information to be contained within Operation and Maintenance manuals).
  - 6. Systems and equipment maintenance manuals (content and information to be contained within Operation and Maintenance manuals).
  - 7. Product maintenance manuals (content and information to be contained within Operation and Maintenance manuals).
- B. Related Requirements:
  - 1. Division 01, Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
  - 2. Division 01, Section "Closeout Procedures" for warranty manuals. Copies of warranties shall be included in Operation and Maintenance manuals.
  - 3. Division 01, Section "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
  - 4. Divisions 02 through 33 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

**1.3 DEFINITIONS**

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Manual Content: Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
  - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
  - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Organize Operation and Maintenance manuals into an orderly sequence based on the table of contents of Project Manual. Submit manuals in the following format:
  - 1. Submit in digital format (PDF) on digital media acceptable to Architect. Enable reviewer comments on draft submittals.
  - 2. Submit three (3) paper copies. Architect and Owner will each retain one (1) copy and Architect will return one (1) copy to the Contractor.
- C. Initial Manual Submittal: Submit draft hard copy of each manual at least thirty (30) days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable. Submit one (1) hard copy for initial review and comment by Architect. Architect will return to Contractor for preparing final manual submittal.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least fifteen (15) days before commencing demonstration and training. Architect will return copy with comments.
  - 1. Correct or revise each manual to comply with Architect's and Owner's comments. Submit copies of each corrected manual within fifteen (15) days of receipt of Architect's and Owner's comments and prior to commencing demonstration and training.
  - 2. Submit three (3) set of final manuals. Architect and Owner will each retain one (1) copy and Architect will return one (1) copy to the Contractor.
- E. Comply with Division 01, Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

#### 1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
  - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
  - 2. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.

3. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
  4. Enable inserted reviewer comments on draft submittals.
- B. Hard Copies of Operational and Maintenance Manuals: Include a complete operation and maintenance directory at the front of each manual. Enclose title pages and directories in clear plastic sleeves. Refer to "Initial Manual Submittal" and "Final Manual Submittal" article in this Section for additional information and quantities.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents (but not to exceed 3-inches thick), sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
  2. Dividers: Provide heavy paper dividers with plastic-covered tabs marked to identify each separate specification Section as indicated in this Project Manual.
  3. Provide a typed description of each product, including the name of the product, the name, address, telephone number of Installer and Manufacturer. Locate this separate index just behind the front of each paper divider tab for each specification Section.
  4. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
  5. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
- C. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
1. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
  2. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.
- D. Identify each binder on the clear plastic front and clear plastic sleeve on spine with the typed title "OPERATION AND MAINTENANCE MANUAL", Project name, and name of Contractor. Indicate "Volume 1 of <insert number> Volumes" as appropriate for the quantity of manuals being provided.
- 1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS
- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
  2. Table of contents.
  3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Construction Manager.
7. Name and contact information for Architect.
8. Name and contact information for Commissioning Authority.
9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
10. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

## 1.7 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

## PART 2 - PRODUCTS

### 2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
1. List of documents.
  2. List of systems.
  3. List of equipment.
  4. Table of contents.

- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

## 2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
  - 1. Title page.
  - 2. Table of contents.
  - 3. Manual contents.
- B. Title Page: Include the following information:
  - 1. Subject matter included in manual.
  - 2. Name and address of Project.
  - 3. Name and address of Owner.
  - 4. Date of submittal.
  - 5. Name and contact information for Contractor.
  - 6. Name and contact information for Contractor's Project Superintendent.
  - 7. Names and contact information for major Sub-contractors to the Contractor who installed the systems contained in the manual.
  - 8. Names and contact information for major Suppliers (and local representative's name) for products and/or systems contained in the manual.
  - 9. Name and contact information for Architect, include Architect's Project Number.
  - 10. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
  - 11. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
  - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit electronic files. Refer to Part 1.4 of this Specification.
- F. Manuals, Hard Copy: Submit hard copies of manuals. Refer to Part 1.4 of this Specification.

## 2.3 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Product Information: Include the following, as applicable:
  - 1. Product name and model number.
  - 2. Manufacturer's name.
  - 3. Color, pattern, and texture.
  - 4. Material and chemical composition.
  - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
  - 1. Inspection procedures.
  - 2. Types of cleaning agents to be used and methods of cleaning.
  - 3. List of cleaning agents and methods of cleaning detrimental to product.
  - 4. Schedule for routine cleaning and maintenance.
  - 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
  - 1. Include procedures to follow and required notifications for warranty claims.

## PART 3 - PRODUCTS

### 3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
  - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
  - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
  - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
  - 1. Do not use original project record documents as part of operation and maintenance manuals.
  - 2. Comply with requirements of newly prepared record Drawings in Division 01, Section "Project Record Documents."
- G. Comply with Division 01, Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

**END OF SECTION 017823**



**SECTION 017839 - 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 Requirements:
  - 1. Division 01, Section "Contract Modification Procedures" for coordinating and implementing modifications to the Contract Documents during construction.
  - 2. Division 01, Section "Project Management and Coordination" for coordinating and implementing modifications to the Contract Documents during construction.
  - 3. Division 01, Section "Construction Progress Documentation" for coordinating and implementing modifications to the Contract Documents during construction.
  - 4. Division 01, Section "Execution".
  - 5. Division 01, Section "Closeout Procedures" for general closeout procedures.
  - 6. Division 01, Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
  - 7. Divisions 02 through 33 Sections for specific requirements for project record documents of the Work in those Sections.

**1.3 DEFINITIONS**

- A. "Record Drawings" and "Record Specifications": When the term "Record Drawings" and the term "Record Specifications" are used within this specification Section and within the Project Manual itself, those terms shall be defined and shall mean to say "As-Built Drawings" and "As-Built Specifications", as prepared by the Contractor. Furthermore, those documents shall be labeled by the Contractor as such and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as project record documents of the Work as constructed by the Contractor.

#### 1.4 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit copies of Record Drawings as follows:

a. Initial Submittal:

- 1) Submit PDF electronic files of scanned record prints and one (1) paper-copy set(s) of marked-up record prints.
- 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

b. Final Submittal:

- 1) Submit one (1) complete set of PDF electronic files of scanned record prints.
- 2) Submit three (3) paper-copy set(s) of marked-up record prints.
- 3) Print each drawing, whether or not changes and additional information were recorded.

B. Record Specifications: Submit one (1) complete set of annotated PDF electronic files of scanned Record Project specifications and three (3) paper copies, including addenda and Contract modifications.

C. Record Product Data: Submit one (1) complete set of annotated PDF electronic files of scanned Record Project Data and three (3) paper copies 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. Miscellaneous Record Submittals: Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit two (2) complete paper copy sets of each submittal.

E. Reports: Submit written report on a regular bi-monthly basis 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.

#### 1.5 RECORD DRAWINGS

A. Record Prints: Maintain one (1) set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

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 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. Changes made by Change Order or Construction Change Directive.
    - d. Changes made following Architect's written orders.
    - e. Details not on the original Contract Drawings.
  3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  4. Mark record prints 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. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
  1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
  2. Consult Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
  1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Format: Annotated PDF electronic file with comment function enabled.
  3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
  4. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Architect.
    - e. Architect's project number.
    - f. Name of Contractor.

## 1.6 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. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  - 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
  - 5. 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.

## 1.7 RECORD PRODUCT DATA

- A. Recording: Maintain one (1) copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. 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.
- C. 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.

## 1.8 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 paper copy.

1. Include miscellaneous Record Submittals directory organized by specification section number and title.

#### 1.9 MAINTENANCE OF RECORD DOCUMENTS

- A. Recording: Maintain one (1) 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 to start updating the Record Documents, start early as possible.
- B. Maintenance of Record Documents: Store Record Documents 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 and its Consultants' reference during normal working hours during the course of construction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 017839**

**SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION****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. Demolition and removal of selected portions of building element(s) or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.
4. Refer to Drawings for areas of demolition Work and disposition of existing building elements with respect to finished Work.

**B. Related Requirements:**

1. Division 01, Section "Summary" for restrictions on use of the premises and Owner-occupancy requirements affecting demolition activities.
2. Division 01, Section "Unit Prices" for schedule of unit prices affecting demolition activities.
3. Division 01, Section "Temporary Facilities and Controls" for temporary facilities and controls requirements affecting demolition activities.
4. Division 01, Section "Execution" for cutting and patching procedures affecting demolition activities.

**1.3 DEFINITIONS**

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled on the drawings.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and store.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated on the drawings.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled on the drawings.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled on the drawings.

**1.4 MATERIALS OWNERSHIP**

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
  - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

**1.5 PREINSTALLATION MEETINGS**

- A. Pre-demolition Conference: Conduct conference at Project site.
  - 1. Inspect and discuss condition of construction to be selectively demolished.
  - 2. Review structural load limitations of existing structure.
  - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
  - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
  - 5. Review areas where existing construction is to remain and requires protection.

**1.6 INFORMATIONAL SUBMITTALS**

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of selective demolition activities with starting and ending dates for each activity.
  - 1. Indicate the following:
    - a. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
    - b. Interruption of utility services. Indicate how long utility services will be interrupted.
    - c. Coordination for shutoff, capping, and continuation of utility services.
    - d. Use of existing structure's vertical circulation systems.
    - e. Coordination of Owner's continuing occupancy of portions of existing structures and of Owner's potential partial occupancy of completed Work.
- C. Pre-demolition photographs or video.
- D. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

**1.7 CLOSEOUT SUBMITTALS**

- A. Inventory of items that have been removed and salvaged.

**1.8 FIELD CONDITIONS**

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect, in writing, of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. Hazardous materials will be removed by Owner before start of the Work.
  - 2. If suspected hazardous materials are encountered, do not disturb. The Contractor shall immediately notify Owner, in writing, upon discovery. Owner shall provide prompt written direction and/or guidance to the Contractor.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.
- G. Arrange selective demolition schedule so as not to interfere with Owner's operations.

**1.9 WARRANTY**

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

**PART 2 - PRODUCTS****2.1 PERFORMANCE REQUIREMENTS**

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.



**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations as may be required.
  - 1. Coordinate with Owner prior to shutting off any utilities.
  - 2. Contractor shall notify Owner not less than four (4) days minimum in advance of shutting off any utilities. The Owner will give 48-hour written notice to tenant(s).
- B. Contractor shall engage a professional engineer to perform an engineering survey of condition(s) of existing building, as required to complete the Work included in the Contract Documents, to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
- C. Inventory and record the condition of items to be removed and salvaged.
- D. Verify that hazardous materials have been remediated before proceeding with selective building demolition operations.
- E. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect and copy Owner.

**3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS**

- A. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
  - 2. Arrange to shut off utilities with utility companies.
  - 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
  - 4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
    - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
    - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
    - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.

- e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

### 3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
  - 1. Provide protection to ensure safe passage of people around selective demolition and work area(s); and to and from occupied portions of existing structures at the Project site.
  - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
  - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
  - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
  - 5. Comply with requirements for temporary enclosures, OSHA approved scaffolding as may be required for this Project, dust control, heating, and cooling specified in Division 01, Section "Temporary Facilities and Controls".
  - 6. Temporary Protection of Existing Landscape: Provide temporary protection of existing landscape materials as may be required around the exterior of existing building areas to ensure landscape materials are not damaged during demolition Work.
  - 7. Provide temporary protection at decks and elevated walkways that are affected.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
  - 1. Comply with OSHA requirements.
  - 2. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

### 3.4 SELECTIVE DEMOLITION (GENERAL)

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
  - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.

- Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  4. Do not use cutting torches.
  5. Maintain adequate ventilation at all times.
  6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
  7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
  8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  9. Dispose of demolished items and materials promptly. Comply with requirements in Division 01, Section "Construction Waste Management and Disposal."
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers.
  3. Store items in a secure area until delivery to Owner.
  4. Transport items to Owner's storage area designated by Owner.
  5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
  2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  3. Protect items from damage during transport and storage.
  4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition, then cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
1. Do not allow demolished materials to accumulate on-site.
  2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Division 01, Section "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

### 3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

**END OF SECTION 024119**

**SECTION 061000 - ROUGH CARPENTRY****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY****A. Section Includes:**

- 1. Framing with dimension lumber.
- 2. Shear wall panels.
- 3. Plywood backing panels.

**B. Related Requirements:**

- 1. Division 01, Section "Unit Prices" for framing replacement at existing areas of Work.
- 2. Division 06, Section "Exterior Rough Carpentry".
- 3. Division 06, Section "Sheathing" for sheathing, subflooring, and underlayment.
- 4. Division 07, Section "Preparation for Re-Roofing".

**1.3 DEFINITIONS**

- A. Boards or Strips: Lumber of less than 2-inches nominal (38 mm actual) size in least dimension.
- B. Dimension Lumber: Lumber of 2-inches nominal (38 mm actual) size or greater but less than 5-inches nominal (114 mm actual) size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. Lumber grading agencies, and the abbreviations used to reference them, include the following:
  - 1. NLGA: National Lumber Grades Authority.
  - 2. WCLIB: West Coast Lumber Inspection Bureau.
  - 3. WWPA: Western Wood Products Association.
- E. OSB: Oriented strand board (Not Permitted).
- F. Timber: Lumber of 5-inches nominal (114 mm actual) size or greater in least dimension.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
  - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
  - 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5664.
  - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
- B. Fastener Patterns: Full-size templates for fasteners in exposed framing.
  - 1. Submit only when fastener locations are critical to appearance and fastener patterns are not indicate on Drawings.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES, when applicable for this Project:
  - 1. Wood-preservative-treated wood.
  - 2. Fire-retardant-treated wood.
  - 3. Engineered wood products.
  - 4. Shear panels.
  - 5. Post-installed anchors.
  - 6. Metal framing anchors.

#### 1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

**PART 2 - PRODUCTS****2.1 PERFORMANCE REQUIREMENTS**

- A. Engage qualified engineer registered in the State where the Project is located to design delegated design elements noted on Drawings as “Delegated Design”.

**2.2 WOOD PRODUCTS, GENERAL**

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
  - 3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
  - 4. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: Kiln dried, unless otherwise indicated. 15 percent for 2-inch nominal (38-mm actual) thickness or less; 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.
- C. Engineered Wood Products: Where noted on Structural Drawings, provide materials acceptable to Authorities Having Jurisdiction (AHJ) and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
  - 1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

**2.3 WOOD-PRESERVATIVE-TREATED LUMBER**

- A. Preservative Treatment by Pressure Process: AWWA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
  - 2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
  - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- D. Application: Treat items indicated on Drawings, and the following:
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  - 2. Wood sills, sleepers, blocking, furring, and similar concealed members in contact with masonry or concrete.
  - 3. Wood framing members that are less than 18-inches (460 mm) above the ground in crawlspaces or unexcavated areas.
  - 4. Wood floor plates that are installed over concrete slabs-on-grade.

#### 2.4 FIRE-RETARDANT-TREATED MATERIALS (Where applicable for this Project)

- A. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
  - 1. Treatment shall not promote corrosion of metal fasteners.
  - 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D2898. Use for exterior locations and where indicated.
  - 3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D3201 at 92 percent relative humidity. Use where exterior type is not indicated.
  - 4. Design Value Adjustment Factors: Treated lumber shall be tested according to ASTM D5664 and design value adjustment factors shall be calculated according to ASTM D6841.
- C. Kiln-dry lumber after treatment to maximum moisture content of 19 percent. Kiln-dry plywood after treatment to maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.



1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- E. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not bleed through, contain colorants, or otherwise adversely affect finishes.
- F. Application: Treat items indicated on Drawings.

## 2.5 DIMENSION LUMBER FRAMING (where required for this Project)

- A. Non-Load-Bearing Interior Partitions: No. 2 grade, unless otherwise noted on Structural Drawings.
  1. Application: Interior partitions not indicated as load bearing, or where indicated on Drawings.
  2. Species:
    - a. Douglas fir-larch; WCLIB or WWPA.
- B. Load-Bearing Partitions: No. 2 grade, unless otherwise noted on Structural Drawings.
  1. Application: Exterior walls and interior load-bearing partitions.
  2. Species:
    - a. Douglas fir-larch; WCLIB or WWPA.
- C. Ceiling Joists: No. 2 grade, unless otherwise noted on Structural Drawings.
  1. Species:
    - a. Douglas fir-larch; WCLIB or WWPA.
- D. Joists, Rafters, and Other Framing Not Listed Above: No. 2 grade, unless otherwise noted on Structural Drawings.
  1. Species:
    - a. Douglas fir-larch; WCLIB or WWPA.
- E. Exposed Framing (where applicable for this Project): Hand-select material for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
  1. Species and Grade: Douglas fir-larch; No. 1 grade; WCLIB or WWPA.

## 2.6 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
  2. Nailers.
  3. Furring.
- B. Dimension Lumber Items: For items of dimension lumber size, provide Construction or No. 2 grade lumber.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

## 2.7 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: Plywood, DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated (where required), in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

## 2.8 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture and Structural Drawings, whichever may be more stringent.
1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
- B. Nails, Brads, and Staples: ASTM F1667.
- C. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to Authorities Having Jurisdiction, as appropriate for the substrate.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1.
- F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers. Install washers between all bolt heads and nuts in contact with wood.

**2.9 METAL FRAMING ANCHORS** (where required for this Project)

- A. Allowable design loads, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.
  - 1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products by the following, unless otherwise noted on Structural Drawings:
    - a. Simpson Strong-Tie Company, Inc.
- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A653/A653M, G60 (Z180) coating designation.
  - 1. Use for interior locations unless otherwise indicated.
- C. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A653/A653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 (Z550) coating designation; and not less than 0.036 inch (0.9 mm) thick.
  - 1. Use for wood-preservative-treated lumber and where indicated.
- D. Joist Hangers:
  - 1. As indicated on Structural Drawings.
- E. I-Joist Hangers:
  - 1. As indicated on Structural Drawings.
- F. Top Flange Hangers:
  - 1. As indicated on Structural Drawings.
- G. Bridging: Rigid, V-section, nail less type, 0.050 inch (1.3 mm) thick, length to suit joist size and spacing, unless otherwise noted on Structural Drawings.
- H. Post Bases: As indicated on Structural Drawings.
- I. Joist Ties: Flat straps, with holes for fasteners, for tying joists together over supports.
  - 1. Width: As indicated on Structural Drawings.
  - 2. Thickness: As indicated on Structural Drawings.
  - 3. Length: As indicated on Structural Drawings.

- J. Floor-to-Floor Ties: Flat straps, with holes for fasteners, for tying upper floor wall studs to band joists and lower floor studs, 1-1/4 inches (32 mm) wide by 0.050 inch (1.3 mm) thick by 36 inches (914 mm) long, unless otherwise noted on Structural Drawings.

- K. Hold-Downs:

- 1. As indicated on Structural Drawings.

## 2.10 MISCELLANEOUS MATERIALS

- A. Flexible Flashing: As indicated in Division 07, Section "Weather Barriers".

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Install shear wall panels to comply with manufacturer's written instructions.
- F. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- G. Install sill sealer gasket to form continuous seal between sill plates and foundation walls, where applicable for this Project.
- H. Do not splice structural members between supports unless otherwise indicated.
- I. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
  - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16-inches (406 mm) o.c.
- J. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:

1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96-inches (2438 mm) o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
  2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96-inches (2438 mm) o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal (38-mm actual) thickness.
  3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. (9.3 sq. m) and to solidly fill space below partitions.
  4. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet (6 m) o.c.
- K. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- L. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
1. Use inorganic boron for items that are continuously protected from liquid water.
  2. Use copper naphthenate for items not continuously protected from liquid water.
- M. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- N. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
  2. ICC-ES evaluation report for fastener.
- O. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
1. Comply with approved fastener patterns where applicable.
  2. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.
- 3.2 INSTALLATION OF WOOD BLOCKING AND NAILERS
- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

3.3 INSTALLATION OF WOOD FURRING

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
- B. Refer to Division 07, Section “Fiber Cement Siding” for exterior furring requirements.

3.4 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

**END OF SECTION 061000**

**SECTION 061600 - SHEATHING****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. Section Includes:
  - 1. Wall sheathing – Plywood.
  - 2. Wall sheathing – Gypsum (Glass Mat Style).
  - 3. Roof sheathing – Plywood.
  - 4. Sheathing joint and penetration treatment.
- B. Related Requirements:
  - 1. Division 01, Section “Unit Prices” for removal and replacement of unsatisfactory plywood roof and wall sheathing at existing areas.
  - 2. Division 06, Section “Rough Carpentry” for plywood backing panels.
  - 3. Division 07, Section “Preparation For Re-Roofing”.
  - 4. Division 07, Section “Weather Barriers” for water-resistive barrier applied over wall sheathing.
  - 5. Division 07, Section “Asphalt Shingles”.
  - 6. Division 07, Section “Fiber-Cement Siding”.

**1.3 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at Project Site with Installer present.
  - 1. Review requirements and installation, special details, transitions, mockups, protection, and work scheduling that covers plywood wall and roof sheathing replacement as well as glass-mat gypsum wall sheathing replacement.

**1.4 ACTION SUBMITTALS**

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
- B. Shop Drawings: For each type of sheathing assembly specified.
  - 1. Show locations and extent of sheathing, accessories, and assemblies specific to Project conditions.
  - 2. Include details for sheathing joints and cracks, counterflashing strips, penetrations, inside and outside corners, terminations, and tie-ins with adjoining construction.

3. Include details of interfaces with other materials that form part of the building envelope.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For each type of wall and roof sheathing specified (plywood and glass-mat gypsum sheathing assemblies), indicating compliance with specified requirements, for tests performed by a qualified testing agency.
- C. Field quality-control reports.

## 1.6 QUALITY ASSURANCE

- A. Mockups: Build mockups to set quality standards for materials and execution.
  1. Build integrated mockups of exterior wall and roof assemblies, incorporating backup construction, sliding patio doors (where applicable), ties and other penetrations, and flashing to demonstrate crack and joint treatment and sealing of gaps, terminations, and penetrations of the building envelope.
    - a. Coordinate construction of mockups to permit inspection and testing of sheathing before finish wall and roofing components are installed.
    - b. Include junction with roofing membrane, building corner condition, and wall intersections.
    - c. If Architect determines mockups do not comply with requirements, reconstruct mockups until mockups are approved.
  2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect and Owner specifically approves such deviations in writing.
  3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

## 1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Owner reserves the right to engage a qualified testing agency to perform preconstruction testing on field mockups.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.



**PART 2 - PRODUCTS****2.1 WOOD PANEL PRODUCTS**

- A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- C. Factory mark panels to indicate compliance with applicable standard.

**2.2 PRESERVATIVE-TREATED PLYWOOD**

- A. Preservative Treatment by Pressure Process: AWPAC U1; Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat items indicated on Drawings.

**2.3 WALL SHEATHING**

- A. Plywood Sheathing: Match existing sheathing, unless otherwise noted on Structural Drawings.
  - 1. Span Rating: Match existing sheathing rating and structural performance characteristics, unless otherwise noted on Structural Drawings, but not less than 32/16 span rating.
  - 2. Nominal Thickness: As indicated on Drawings.
- B. Oriented-Strand-Board Sheathing: Not Allowed.
- C. Glass-Mat Gypsum Sheathing: Type X, fiberglass mat gypsum sheathing.
  - 1. Basis-of-Design: Subject to compliance with the requirements described herein, provide DensGlass® gypsum wall sheathing.
  - 2. Thickness: Match existing, where occurs, unless otherwise noted.
  - 3. Size: Verify in field, except that new panels shall not exceed 48- by 96-inches (1219 by 2438 mm) for vertical installation.
  - 4. Edges: Square.
  - 5. Flashing and Transitions Strips: As acceptable to sheathing manufacturer.
  - 6. Fire Propagation Characteristics: Complies with NFPA 285 testing as part of an approved assembly.

7. UV Resistance: Can be exposed to sunlight for thirty (30) days according to manufacturer's written instructions.
8. Provide primers, transition strips, termination strips, joint reinforcing fabric and strips, joint sealants, counterflashing strips, flashing sheets and metal termination bars, termination mastic, substrate patching materials, adhesives, tapes, foam sealants, lap sealants, and other accessory materials that are recommended in writing by sheathing manufacturer to produce a complete assembly and that are compatible with primary weather resistant barrier material and adjacent construction.

## 2.4 ROOF SHEATHING

- A. Plywood Sheathing: Match existing sheathing, unless otherwise noted on Structural Drawings.
  1. Span Rating: Match existing sheathing rating and structural performance characteristics, unless otherwise noted on Structural Drawings, but not less than 32/16 span rating.
  2. Nominal Thickness: As indicated on Drawings.
- B. Oriented-Strand-Board Sheathing: Not Allowed.

## 2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture, and as indicated on Structural Drawings, whichever may be more stringent.
  1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
- B. Screws for Fastening Sheathing to Wood Framing: ASTM C1002.

## 2.6 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

- A. Sealant for Glass-Mat Gypsum Sheathing: Elastomeric, medium-modulus, neutral-curing silicone joint sealant compatible with joint substrates formed by gypsum sheathing and other materials, recommended by sheathing manufacturer for application indicated and complying with requirements for elastomeric sealants specified in Division 07, Section "Joint Sealants."
- B. Sealant for Glass-Mat Gypsum Sheathing: Silicone emulsion sealant complying with ASTM C834, compatible with sheathing tape and sheathing and recommended by tape and sheathing manufacturers for use with glass-fiber sheathing tape and for covering exposed fasteners.
  1. Sheathing Tape: Self-adhering glass-fiber tape, minimum 2-inches (50 mm) wide, 10- by 10- or 10- by 20-threads/inch (390 by 390 or 390 by 780 threads/m), of type recommended by sheathing and tape manufacturers for use with silicone emulsion sealant in sealing joints in glass-mat gypsum sheathing and with a history of successful in-service use.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine areas of Work indicated to receive new sheathing, with Installer present, for compliance with requirements for sheathing, installation tolerances, and other conditions affecting performance of the Work. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  - 1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Installation of products indicates acceptance of surfaces and conditions.

**3.2 INSTALLATION, GENERAL**

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three (3) support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
  - 1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
  - 2. ICC-ES evaluation report for fastener.
- D. Use screw-type fasteners unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting substrate(s) and wood framing members.
- E. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- F. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

### 3.3 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below, unless otherwise directed by the Structural Engineer of Record.
  - 1. Wall and Roof Sheathing:
    - a. Screw to wood framing. Apply a continuous bead of glue to framing members at edges of wall sheathing panels.
    - b. Space panels 1/8-inch (3 mm) apart at edges and ends.

### 3.4 GYPSUM SHEATHING INSTALLATION (where required for this Project)

- A. Comply with GA-253 and with manufacturer's written instructions.
  - 1. Fasten gypsum sheathing to wood framing with screws.
  - 2. Install panels with a 3/8-inch (9.5-mm) gap where non-load-bearing construction abuts structural elements.
  - 3. Install panels with a 1/4-inch (6.4-mm) gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
- B. Apply fasteners so heads bear tightly against face of sheathing, but do not cut into facing.
- C. Horizontal Installation: Install sheathing with V-grooved edge down and tongue edge up. Interlock tongue with groove to bring long edges in contact with edges of adjacent panels without forcing. Abut ends over centers of studs, and stagger end joints of adjacent panels not less than one stud spacing. Attach at perimeter and within field of panel to each stud.
  - 1. Install per manufacturer written requirements, or as noted on Structural Drawings, whichever is more stringent.
- D. Vertical Installation: Install vertical edges centered over studs. Abut ends and edges with those of adjacent panels. Attach at perimeter and within field of panel to each stud.
  - 1. Install per manufacturer written requirements, or as noted on Structural Drawings, whichever is more stringent.
- E. Seal sheathing joints according to sheathing manufacturer's written instructions.
  - 1. Apply elastomeric sealant to joints and fasteners and trowel flat. Apply sufficient amount of sealant to completely cover joints and fasteners after troweling. Seal other penetrations and openings.
  - 2. Apply glass-fiber sheathing tape to glass-mat gypsum sheathing joints and apply and trowel sealant to embed entire face of tape in sealant. Apply sealant to exposed fasteners with a trowel so fasteners are completely covered. Seal other penetrations and openings.

3.5 FIELD QUALITY CONTROL

- A. ABAA Quality Assurance Program: Perform examinations, preparation, installation, testing, and inspections under ABAA's Quality Assurance Program.
- B. Testing and Inspecting Agency: Owner reserves the right to engage a qualified testing agency to perform tests and inspections, when required by the Contract Documents.
- C. Repair damage to sheathing caused by testing; follow manufacturer's written instructions.
- D. Prepare test and inspection reports.

**END OF SECTION 061600**

**SECTION 062013 - EXTERIOR FINISH CARPENTRY****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY****A. Section Includes:**

- 1. Exterior Trim (Standing and Running).

**B. Related Requirements:**

- 1. Division 06, Section "Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view.
- 2. Division 06, Section "Sheathing" for installation of damaged sheathing substrates.
- 3. Division 07, Section "Sheet Metal Flashing and Trim".
- 4. Division 07, Section "Joint Sealants".
- 5. Division 09, Section "Exterior Painting".
- 6. Division 09, Section "Staining and Transparent Finishing".

**1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

- 1. Include data for wood-preservative treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained. Include chemical-treatment manufacturer's written instructions for finishing treated material.
- 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced before shipment to Project site to levels specified.

- B. Samples: For each type of product involving selection of colors, profiles, or textures.

- 1. For each species and cut of lumber and panel products, with half of exposed surface finished; 12-inches in length by width of specified product.
- 2. For exposed wood soffits, 12-inches in length by width of specified product.

#### 1.4 INFORMATIONAL SUBMITTALS

A. Compliance Certificates:

1. For lumber that is not marked with grade stamp.
2. For preservative-treated wood that is not marked with treatment-quality mark.

B. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.

C. Sample Warranties: For manufacturer's warranties.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation.

1. Protect materials from weather by covering with waterproof sheeting, securely anchored.
2. Provide for air circulation around stacks and under coverings.

#### 1.6 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecast weather conditions permit work to be performed and at least one coat of specified finish can be applied without exposure to rain, snow, or dampness.

B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

#### 1.7 WARRANTY

A. Manufacturer's Warranty for Standing and Running Trim: Manufacturer agrees to repair or replace components that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, deformation or deterioration beyond normal weathering.
2. Warranty Period for Exposed Trim (Excluding Finish): Five (5) years from date of Substantial Completion.

**PART 2 - PRODUCTS****2.1 MATERIALS, GENERAL**

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with applicable rules of any rules-writing agency certified by the American Lumber Standard Committee's (ALSC) Board of Review. Grade lumber by an agency certified by the ALSC's Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of inspection agency, indicating grade, species, moisture content at time of surfacing, and mill.
  2. For exposed lumber, mark grade stamp on end or back of each piece.

**2.2 EXTERIOR TRIM (FASCIA, BARGE AND EAVE ROOF TRIM, INSIDE CORNER TRIM)**

- A. Lumber Trim for Painted Finish:
1. Species and Grade: Western red cedar, vertical grain; NLGA, WCLIB, or WWPA Grade A.
  2. Maximum Moisture Content: 15 percent with at least 85 percent of shipment at 12 percent or less.
  3. Finger Jointing: Allowed if made with wet-use adhesive complying with ASTM D5572.
  4. Face Surface: Rough sawn texture.
  5. Factory Priming: Factory coated on both faces and all edges, with exterior primer compatible with topcoats specified.
  6. Dimensions: As indicated on Drawings.

**2.3 EXTERIOR TRIM (FIBER CEMENT)**

- A. Refer to Division 07, Section "Fiber Cement Siding" for fiber cement trim specification requirements.

**2.4 MISCELLANEOUS MATERIALS**

- A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches (38 mm) into wood substrate.
1. For pressure-preservative-treated wood, provide stainless steel fasteners.
  2. For applications not otherwise indicated, provide hot-dip galvanized-steel fasteners.
- B. Flashing: Comply with requirements in Division 07, Section "Sheet Metal Flashing and Trim" for flashing materials installed in exterior finish carpentry.
- C. Sealants: Comply with requirements in Division 07, Section "Joint Sealants".



## 2.5 FABRICATION

- A. Back out or kerf backs of standing and running trim wider than 5-inches (125 mm), except members with ends exposed in finished work.
- B. Ease edges of lumber less than 1-inch (25 mm) in nominal thickness to 1/16-inch (1.5-mm) radius and edges of lumber 1-inch (25 mm) or more in nominal thickness to 1/8-inch (3-mm) radius.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  - 1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
- B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Installation of products indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Prime lumber and moldings to be painted, including both faces and edges, unless factory primed.
  - 1. Cut to required lengths and prime ends.
  - 2. Comply with requirements in Division 09, Section "Exterior Painting."

### 3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
  - 1. Do not use manufactured units with defective surfaces, sizes, or patterns.
- B. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials.

1. Use concealed shims where necessary for alignment.
2. Scribe and cut exterior finish carpentry to fit adjoining work.
3. Refinish and seal cuts as recommended by manufacturer.
4. Install to tolerance of 1/8 inch in 96 inches (3 mm in 2438 mm) for level and plumb. Install adjoining exterior finish carpentry with 1/32-inch (0.8-mm) maximum offset for flush installation and 1/16-inch (1.5-mm) maximum offset for reveal installation.
5. Coordinate exterior finish carpentry with materials and systems in or adjacent to it.
6. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.

### 3.4 INSTALLATION OF STANDING AND RUNNING TRIM

- A. Install flat-grain lumber with bark side exposed to weather.
- B. Install trim with minimum number of joints as is practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches (610 mm) long, except where necessary.
  1. Use scarf joints for end-to-end joints.
  2. Stagger end joints in adjacent and related members.
- C. Fit exterior joints to exclude water.
- D. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.

### 3.5 ADJUSTING

- A. Replace exterior finish carpentry that is damaged or does not comply with requirements prior to Substantial Completion.
  1. Exterior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.
- B. Adjust joinery for uniform appearance.

### 3.6 CLEANING

- A. Clean exterior finish carpentry on exposed and semi-exposed surfaces.
- B. Touch up factory-applied finishes to restore damaged or soiled areas.

### 3.7 PROTECTION

- A. Protect installed products from damage from weather and other causes during construction.
- B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

**END OF SECTION 062013**

**SECTION 062023 - INTERIOR FINISH CARPENTRY****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. Section Includes: All labor, surface preparation, application, materials, tools and other equipment, services and supervision required to complete all Work of this Section as indicated on and to the full extent of the drawings, specifications and Interior Finish Schedule. Coordinate products and materials of this Section, which may not be necessarily limited to, with the following:
  - 1. Shop Priming of standing and running interior trim.
- B. Related Requirements:
  - 1. Division 06, Section "Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view.
  - 2. Division 06, Section "Interior Painting" for priming and backpriming of interior finish carpentry.
- C. This is a performance specification Section. Refer to and comply with Interior Finish Schedule and Drawings for:
  - 1. Areas to receive product materials.
  - 2. Product material description.
  - 3. Manufacturer.
  - 4. Color selection.
  - 5. Finish.
  - 6. Sizes.
  - 7. Configuration (profile).
  - 8. Species selection.
  - 9. Veneer selection.
  - 10. Surface texture.

**1.3 DEFINITIONS**

- A. MDF: Medium-density fiberboard.
- B. MDO: Plywood with a medium-density overlay on the face.

#### 1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site with Installer(s).
  - 1. Review methods and procedures related to installation including, but not limited to, the following:
    - a. Review delivery, storage, and handling procedures.
    - b. Review ambient conditions and ventilation procedures.
    - c. Review substrate preparation procedures as necessary.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained. Include chemical-treatment manufacturer's written instructions for finishing treated material.
  - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced before shipment to Project site to levels specified.
- B. Shop Drawings: Including shop drawings of project specific details drawn to scale, which shall indicate locations of product materials being installed using same nomenclature and references indicated on Interior Finish Schedule and Drawings.
- C. Samples: For each type of product involving selection of colors, profiles, or textures.
  - 1. For each species and cut of lumber and panel products with non-factory-applied finish, with half of exposed surface finished; Minimum 6-inches in length by specified height.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For fire-retardant-treated wood, from ICC-ES.
- B. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required for the installation of interior finish carpentry.
- C. Product Installation: Include written recommendations and installation instructions of products of this Section, which shall be kept on-site during installation.
- D. Sample Warranty: For Installer's warranty/guarantee.

**1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation.
  - 1. Protect materials from weather by covering with waterproof sheeting, securely anchored.
  - 2. Provide for air circulation around stacks and under coverings.
- B. Deliver interior finish carpentry materials only when environmental conditions comply with requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions comply with requirements specified for installation areas. Maintain temperature and humidity within the range recommended by standards indicated for the location of the Project. Coordinate fabrication, delivery, and installation with General Contractor's Schedule.

**1.8 FIELD CONDITIONS**

- A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet-work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
  - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

**1.9 COORDINATION**

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that wood trim can be supported and installed as indicated.

**1.10 WARRANTY**

- A. Installer's Warranty/Guarantee: Installer agrees to repair or replace components of interior finish carpentry, including materials and labor at no cost to the Owner, that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Two (2) years from date of Substantial Completion.

**PART 2 - PRODUCTS****2.1 WOOD TRIM FABRICATORS**

- A. Source Limitations: Engage a qualified fabricator firm to assume undivided responsibility for production of wood trim subject to compliance with requirements of this Section, Interior Finish Schedule and Drawings.

**2.2 MATERIALS, GENERAL**

- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of wood trim indicated for construction, finishes, installation, and other requirements.
  - 1. Provide labels and certificates from AWI certification program indicating that woodwork, including installation, complies with requirements of grades specified.
  - 2. The Contract Documents may contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.
- B. Low-Emitting Materials: Composite wood products shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- C. Lumber: DOC PS 20 and applicable rules of grading agencies indicated.
  - 1. NHLA: National Hardwood Lumber Association, "Rules for the Measurement and Inspection of Hardwood & Cypress."
  - 2. WCLIB: West Coast Lumber Inspection Bureau, Standard No. 17, "Grading Rules for West Coast Lumber."
  - 3. WWPA: Western Wood Products Association, "Western Lumber Grading Rules."
  - 4. If no grading agency is indicated, comply with applicable rules of any rules-writing agency certified by the American Lumber Standard Committee's (ALSC) Board of Review. Grade lumber by an agency certified by the ALSC's Board of Review to inspect and grade lumber under the rules indicated.
    - a. Factory mark each piece of lumber with grade stamp of grading agency.
    - b. For exposed lumber, mark grade stamp on end or back of each piece[, or omit grade stamp and provide certificates of grade compliance issued by grading agency].
- D. Softwood Plywood: DOC PS 1.
- E. Hardboard: ANSI A135.4.
- F. MDF: Use of MDF is NOT Permitted for this Project.
- G. Particleboard: Use of particleboard is NOT Permitted for this Project.

- H. Components: Lumber shall be sound and in accordance with the standards and requirements indicated for its use and the Grade indicated.

## 2.3 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. General: For applications indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction, and comply with testing requirements; testing by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
  - 1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 15 percent respectively.
- C. For exposed items indicated to receive transparent finish, do not use chemical formulations that contain colorants or that bleed through or otherwise adversely affect finishes.
- D. Do not use material that is warped or does not comply with requirements for untreated material.
- E. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
  - 2. For exposed plywood indicated to receive a stained or natural finish, mark back of each piece.
- F. Application: Where indicated.

## 2.4 INTERIOR TRIM

- A. Lumber Trim for Opaque Finish (Painted Finish):
  - 1. Species and Grade: Clear Vertical Grain Hemlock or approved equal.
    - a. Use of MDF shall NOT be permitted for this Project.
  - 2. Location: Interior standing and running interior base trim at sliding doors, where removal and replacement is required to successfully install new sliding door assemblies.
  - 3. Maximum Moisture Content: 15 percent with at least 85 percent of shipment at 12 percent or less.
  - 4. Finger Jointing: Not Allowed.
  - 5. Face Surface: Surfaced (smooth).
  - 6. Gluing for Width: Not Allowed.



7. Veneered Material: Not Allowed.
8. Size: Match Existing.

## 2.5 MISCELLANEOUS MATERIALS

- A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
- B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
  1. Wood glue shall have a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  2. Adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- C. Multipurpose Construction Adhesive: Formulation, complying with ASTM D3498, that is recommended for indicated use by adhesive manufacturer.
  1. Adhesive shall have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

## 2.6 FABRICATION

- A. Fabricate wood trim to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:
  1. Ease edges of lumber less than 1 inch (25 mm) in nominal thickness to 1/16-inch (1.5-mm) radius and edges of lumber 1 inch (25 mm) or more in nominal thickness to 1/8-inch (3-mm) radius Backout or groove backs of flat trim members and kerf backs of other wide, flat members except for members with ends exposed in finished work.
- B. Backout or groove backs of flat trim members and kerf backs of other wide, flat members except for members with ends exposed in finished work.

## 2.7 SHOP FINISHING

- A. General: Finish wood trim at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
- B. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing wood trim, as applicable to each unit of work.
  1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of wood trim. Apply two coats to end-grain surfaces.
  2. Grade: Custom.
  3. Finish: Refer to Interior Finish Schedule and Drawings for material and finish.

4. Wash Coat for Closed-Grain Woods: Apply wash-coat sealer to woodwork made from closed-grain wood before staining and finishing.
5. Staining: Refer to Interior Finish Schedule and Drawings and as selected on approved submittal.
6. Open Finish for Open-Grain Woods: Do not apply filler to open-grain woods.
7. Filled Finish for Open-Grain Woods: After staining, apply wash-coat sealer and allow to dry. Apply paste wood filler and wipe off excess. Tint filler to match stained wood.
8. Sheen: Refer to Interior Finish Schedule and Drawings and as selected on approved submittal.

C. Opaque Finish for Interior Trim:

1. Grade: Custom.
2. Finish: Match Existing and as approved during submittal process.
3. Color: Match Existing and as approved during submittal process.
4. Sheen: Match Existing and as approved during submittal process.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
- B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- C. Verify the adequacy and proper location of required backing or support framing.
- D. Verify that mechanical, electrical, plumbing, and other building components effecting work in this Section are in place and ready.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.
  1. Installation of products indicates acceptance of surfaces and conditions.

#### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

- B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours, unless longer conditioning is recommended by manufacturer.

### 3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound; warped; improperly treated or finished; inadequately seasoned; too small to fabricate with proper jointing arrangements; or with defective surfaces, sizes, or patterns.
- B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials.
  - 1. Use concealed shims where necessary for alignment.
  - 2. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer. All work abutting other building components shall be properly scribed.
  - 3. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.
  - 4. Install to tolerance of 1/8 inch in 96 inches (3 mm in 2438 mm) for level and plumb. Install adjoining interior finish carpentry with 1/32-inch (0.8-mm) maximum offset for flush installation and 1/16-inch (1.5-mm) maximum offset for reveal installation.
  - 5. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.
- C. Anchor wood trim to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing.

### 3.4 INSTALLATION OF STANDING AND RUNNING TRIM

- A. Install trim with minimum number of joints as is practical, using full-length pieces from maximum lengths of lumber available.
  - 1. Do not use pieces less than 24 inches (610 mm) long, except where necessary.
  - 2. Stagger joints in adjacent and related standing and running trim.
  - 3. Miter at returns, miter at outside corners, and cope at inside corners to produce tight-fitting joints with full-surface contact throughout length of joint.
  - 4. Use scarf joints for end-to-end joints.
  - 5. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.
  - 6. Match color and grain pattern of trim for transparent finish (stain or clear finish) across joints.
  - 7. Install trim after gypsum-board joint finishing operations are completed.
  - 8. Install without splitting; drill pilot holes before fastening where necessary to prevent splitting.
  - 9. Fasten to prevent movement or warping.
  - 10. Countersink fastener heads on exposed carpentry work and fill holes.

3.5 ADJUSTING

- A. Replace interior finish carpentry that is damaged or does not comply with requirements.
  - 1. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.
- B. Adjust joinery for uniform appearance.

3.6 CLEANING

- A. Clean interior finish carpentry on exposed and semi-exposed surfaces.
- B. Restore damaged or soiled areas and touch up factory-applied finishes if any.

3.7 PROTECTION

- A. Protect installed products from damage from weather and other causes during construction.
- B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
  - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.
- C. Upon completion of installation, the installer shall clean all installed items of pencil and ink marks, and broom clean the area of operation.
- D. Remove all packing material off-site in an approved manner and leave area in a clean and orderly manner.
- E. Replace damaged products that cannot be repaired in a manner approved by Architect before time of Substantial Completion.

**END OF SECTION 062023**

**SECTION 070150.19 - PREPARATION FOR RE-ROOFING****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY****A. Section Includes:**

1. Full tear-off of roof system at areas indicated on Drawings.
2. Removal of flashings and counterflashings.
3. Temporary roofing.

**B. Related Requirements:**

1. Division 01, Section "Summary" for use of premises and for phasing requirements, as well as Occupied Structure requirements.
2. Division 01, Section "Unit Prices" for removal and replacement of unsatisfactory plywood roof sheathing at existing roof areas.
3. Division 01, Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for reroofing preparation.
4. Division 01, Section "Construction Waste Management and Disposal" for waste management and disposal procedures.
5. Division 07, Section "Asphalt Shingles" for new finished roofing materials to be provided and installed.

**1.3 UNIT PRICES**

- A. Work of this Section is affected by removal and replacement of unsatisfactory roof sheathing unit price.

**1.4 DEFINITIONS**

- A. Full Roof Tear-off: Removal of existing roofing system down to existing roof deck.
- B. OSB: Oriented strand board (use of this product is NOT permitted for this Project).
- C. Roofing Terminology: Definitions in ASTM D1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to work of this Section.

**1.5 PREINSTALLATION MEETINGS**

- A. Preliminary Roofing Conference: Before starting removal Work, conduct conference at Project Site, with Installer, roofing manufacturer, and General Contractor present.
1. Meet with Owner, Architect, Shingle Manufacturer's representative, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
  2. Review methods and procedures related to roofing tear-off, including, but not limited to, the following:
    - a. Reroofing preparation, including roofing system manufacturer's written instructions.
    - b. Temporary protection requirements for existing roofing system components that are to remain.
    - c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
    - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
    - e. Existing roof deck conditions requiring Architect notification.
    - f. Existing roof deck removal procedures and Owner notifications.
    - g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
    - h. Structural loading limitations of roof deck during reroofing.
    - i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
    - j. HVAC shutdown and sealing of air intakes.
    - k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
    - l. Asbestos removal and discovery of asbestos-containing materials.
    - m. Governing regulations and requirements for insurance and certificates if applicable.
    - n. Existing conditions that may require Architect notification before proceeding.

**1.6 ACTION SUBMITTALS**

- A. Product Data: For each type of product.

**1.7 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For Installer.
- B. Photographs: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations.
1. Submit before Work begins.

- C. Landfill Records: Indicate receipt and acceptance of demolished roofing materials and hazardous wastes, such as asbestos-containing materials, by a landfill facility licensed to accept them.
  - 1. Owner will engage a qualified third-party testing agency to test existing roofing components for hazardous materials prior to commencement of construction.

#### 1.8 CLOSEOUT SUBMITTALS

- A. Maintenance and Product Data: Provide manufacturer's written recommended maintenance data and product data for each type of product installed, including methods for maintaining as well as precautions for use of cleaning materials and methods that could be detrimental to finishes and performance. Include in operation and maintenance manuals.
- B. Warranties: Include warranty in Project warranty manual.
- C. Upon completion of work of this Section, provide Owner with all maintenance materials from work of this Section that are packaged with protective covering for Owner's storage and identified with labels describing contents.

#### 1.9 QUALITY ASSURANCE

- A. Installer Qualifications: An entity with not less than five (5) years of successful experience in installation of asphalt shingle roofing and accessories that employs installers and supervisors who are competent in techniques required and certified by manufacturer.
  - 1. Engage an installer who employs workers for this Project who are trained or certified by manufacturer for installation techniques required.
- B. Regulatory Requirements:
  - 1. Comply with governing EPA notification regulations before beginning roofing removal.
  - 2. Comply with hauling and disposal regulations of Authorities Having Jurisdiction (AHJ).

#### 1.10 FIELD CONDITIONS

- A. Existing Roofing System: Asphalt shingle roofing.
- B. Owner will occupy portions of building immediately below reroofing area.
  - 1. Conduct reroofing so Owner's operations are not disrupted.
  - 2. Provide Owner with not less than seventy-two (72) hours' written notice of activities that may affect Owner's operations.
  - 3. Coordinate work activities daily with Owner so Owner has adequate advance notice to place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.

4. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below affected area.
  - a. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.
- C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- D. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- E. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.
- F. Limit construction loads on existing roof areas to remain, and existing roof areas scheduled to be reroofed to originally permitted, maximum loading design criteria for uniformly distributed loads.
  1. Originally permitted, maximum snow load: 25 psf, uniformly distributed.
- G. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
  1. Remove only as much roofing in one day as can be made watertight in the same day.
- H. Hazardous Materials: It is not expected that hazardous materials, such as asbestos-containing materials, will be encountered in the Work.
  1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

## PART 2 - PRODUCTS

### 2.1 TEMPORARY PROTECTION MATERIALS

- A. Design and selection of materials for temporary roofing are Contractor's responsibilities.

### 2.2 TEMPORARY ROOFING MATERIALS

- A. Design and selection of materials for temporary roofing are Contractor's responsibilities.

### 2.3 INFILL AND REPLACEMENT MATERIALS

- A. Use infill materials matching existing roofing system materials unless otherwise indicated.
- B. Plywood roof sheathing is specified in Division 06, Section "Sheathing."



1. Use of OSB sheathing products is NOT permitted for this Project.

## 2.4 AUXILIARY REROOFING MATERIALS

- A. General: Use auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of existing and new roofing system.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protection of In-Place Conditions:
  1. Protect existing roofing system that is not to be reroofed.
  2. Limit traffic and material storage to areas of existing roofing that have been protected.
  3. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.
  4. Comply with requirements of existing roof system manufacturer's warranty requirements.
- B. Temporarily seal or isolate windows, doors, and other openings, that may be exposed to airborne substances created in removal of existing materials.
- C. Shut off rooftop utilities and service piping before beginning the Work, as may be required.
- D. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work.
  1. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- E. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- F. Maintain roof drainage in functioning condition to ensure roof drainage at end of each workday.
  1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water.
    - a. Do not permit water to enter into or under existing roofing system components that are to remain.

### 3.2 ROOF TEAR-OFF

- A. Notify and coordinate with Owner each day of extent of roof tear-off proposed for that day and obtain authorization to proceed.

- B. Lower removed roofing materials to ground and onto lower roof levels, using dust-tight chutes or other acceptable means of removing materials from roof areas.
- C. Full Roof Tear-off: Where indicated on Drawings, remove existing roofing and other roofing system components down to the existing roof deck.
  - 1. Remove damaged roof sheathing.
  - 2. Remove base flashings and counter flashings.
  - 3. Remove perimeter edge flashing.
  - 4. Remove flashings at pipes, curbs, mechanical equipment, and other penetrations.
  - 5. Remove roof gutters and downspouts.
  - 6. Remove existing roof vents.

### 3.3 DECK PREPARATION

- A. Inspect deck after tear-off of roofing system.
- B. If broken or loose fasteners that secure deck panels to one another or to structure are observed, or if deck appears or feels inadequately attached, immediately notify Architect, in writing.
  - 1. Do not proceed with installation until directed by Architect, in writing.
- C. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect and Structural Engineer, in writing.
  - 1. Do not proceed with installation until directed by Architect, in writing.
- D. Provide additional deck securement, as necessary, complying with building code for securing field and perimeter of plywood roofing attachment, as indicated on Structural Drawings.
- E. Replace unsatisfactory plywood roof sheathing as indicated on Structural Drawings.
  - 1. Roof sheathing replacement will be paid for by adjusting the Contract Sum according to unit prices included Division 01, Section "Unit Prices".

### 3.4 INFILL MATERIALS INSTALLATION

- A. Immediately after roof tear-off, and inspection and repair, if needed, of deck, fill in tear-off areas to match existing roofing system construction.
- B. Install new roofing patch over roof infill area.

### 3.5 TEMPORARY ROOFING

- A. Install approved temporary roofing over area to be reroofed, as necessary to avoid weather elements from entering building interior.
- B. Remove temporary roofing before installing new finished roofing system.

3.6 BASE FLASHING REMOVAL

- A. Remove existing base flashings.
  - 1. Clean substrates of contaminants, such as asphalt, sheet materials, dirt, and debris.
- B. Do not damage metal counterflashings that are to remain.
  - 1. Replace metal counterflashings damaged during removal with counterflashings specified in Division 07, Section "Sheet Metal Flashing and Trim" and specified in Division 07, Section "Roof Specialties".

3.7 DISPOSAL

- A. Collect demolished materials and place in containers.
  - 1. Promptly dispose of demolished materials.
  - 2. Do not allow demolished materials to accumulate on-site.
  - 3. Storage or sale of demolished items or materials on-site is not permitted.
- B. Transport and legally dispose of demolished materials off Owner's property.

**END OF SECTION 070150.19**

**SECTION 072500 - WEATHER BARRIERS****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY****A. Section Includes:**

- 1. Weather resistant barrier and associated accessories.
- 2. Flexible flashing.

**B. Related Requirements:**

- 1. Division 01, Section "Unit Prices" for removal and replacement of unsatisfactory wall sheathing at exterior walls.
- 2. Division 01, Section "Quality Requirements" for additional mock-up requirements not noted within this Section.
- 3. Division 01, Section "Fenestration System Testing" for coordination with fenestration testing requirements.
- 4. Division 06, Section "Sheathing" for replacement of unsatisfactory wall sheathing at exterior walls.
- 5. Division 06, Section "Exterior Finish Carpentry" for exterior standing and running trim.
- 6. Division 07, Section "Asphalt Shingles" for coordination with new asphalt roofing and underlayment system components.
- 7. Division 07, Section "Fiber-Cement Siding" for exterior siding and vertical batten requirements.
- 8. Division 07, Section "Sheet Metal Flashing and Trim" for metal flashings integrated into the building envelope.
- 9. Division 07, Section "Joint Sealants" for joint-sealant materials integrated into the building envelope.
- 10. Division 08, Section "Vinyl Sliding Patio Doors" for exterior sliding patio door system integration into the building envelope.

**1.3 DEFINITIONS**

- A. AAMA: American Architectural Manufacturers Association
- B. AATCC: American Association of Textile Chemists and Colorists
- C. ASTM: American Society for Testing and Materials

- D. Back Dam: The rear upturned leg of a sill pan or subsill designed for the purpose of containing liquid water.
- E. End Dam: The side upturned legs of a sill pan or subsill designed for the purpose of containing liquid water. End dams must of a height equal to the height of the back dam or higher.
- F. Flexible Flashing: Refers to either Mechanically Attached Membrane flashing or Self Adhered Membrane flashing.
- G. Mechanically Attached Membrane ("MAM") flashing: A type of flashing with low or no permeance that is designed to prevent liquid water from passing through it. When mechanically attached flashing is used, a roll width dimension of not less than 9 inches (230 mm) shall be required. Mechanically attached flashing shall meet the performance requirements in ICC Acceptance Criteria 148.
- H. Self-Adhering Membrane ("SAM") flashing: Flexible facing materials coated completely, or partially, on at least one side with an adhesive material and which do not depend upon mechanical fasteners for permanent attachment. Self adhering flashing shall meet the performance requirements of AAMA 711 or ICC Acceptance Criteria AC 148.
- I. Pan Flashing (sill pan or threshold pan): A type of flashing used at the base of a rough opening to divert incidental water to the exterior or to the exterior surface of a concealed weather resistive barrier. Pan flashings have upturned legs at the rear interior edge (back dam) and right and left sides (end dam) to form a three-sided pan that has the front open for drainage. At metal pans, all seams to be fully welded and watertight. Sill pans shall be sloped to the exterior.
- J. Weather Barrier Assembly: The collection of weather barrier materials and auxiliary materials applied to an opaque wall, including joints and junctions to abutting construction, to provide vapor control, water resistance and wind resistance within the wall assembly.

#### 1.4 REFERENCES

- A. AAMA 100-07 – Standard Practice For Installation Of Windows With Flanges or Mounting Fins in Wood Frame Construction.
- B. AATCC Test Method 127 - Water Resistance: Hydrostatic Pressure Test; 1998.
- C. American Society for Testing and Materials (ASTM)
  - 1. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
  - 2. ASTM E 96 – Standard Test Methods for Water Vapor Transmission of Materials; Compliant with Procedure B (Water Method) for interior to exterior testing.
  - 3. ASTM D 779 – Standard Test Method for Water Resistance of Paper, Paperboard, and Other Sheet Materials by the Dry Indicator Method
  - 4. ASTM D 882 – Standard Test Method for Tensile Properties of Thin Plastic Sheeting.
  - 5. ASTM 2112-07 – Standard Practice for Installation of Exterior Windows, Doors and Skylights.

**1.5 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
  - 1. For weather resistant barrier system and accessories, include data on air and water-vapor permeance based on testing according to referenced standards.
- B. Shop Drawings: Show details of weather resistant barrier system and accessories at terminations, openings, and penetrations. Show details of flexible flashing applications.
  - 1. Provide 1-1/2" scale drawings (or larger) showing relationship of membrane to:
    - a. Framing or blocking members
    - b. Thermal Insulation
    - c. Sheathing
    - d. All exterior cladding and corner conditions
    - e. Door and window frames
    - f. Pan flashing at doors
    - g. Sill flashing at windows
    - h. Through-wall metal flashing
    - i. Pipe, conduit and duct penetrations

**1.6 INFORMATIONAL SUBMITTALS**

- A. Evaluation Reports: For weather-resistive barrier and flexible flashing, from ICC-ES.
- B. Samples:
  - 1. 8-1/2-x-11-inch square of weather-resistive barrier sheet.
  - 2. Tapes (Single & Double sided).
  - 3. 12" strip of Self Adhering Membrane Flashing
  - 4. Provide materials and fasteners for mock-up.

**1.7 QUALITY ASSURANCE**

- A. Applicator Qualifications: A firm experienced in applying Weather Barrier materials similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Mockups: Before beginning installation of Weather Barrier, build mockups of exterior wall assembly, incorporating backup wall construction, external cladding, window, door frame and sill, and flashing to demonstrate surface preparation, crack and joint treatment, and sealing of gaps, terminations, and penetrations of weather barrier membrane.
  - 1. Include junction with building corner condition and foundation wall intersection.
  - 2. If Owner and Architect determines mockups do not comply with requirements, reconstruct mockups and apply weather barrier until mockups are approved.
  - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

4. Mockup(s) shall be reviewed and approved by the Owner and Architect prior to proceeding with the balance of the installation.
5. At mock up review provide 8½"x11" images of weather barrier installation and all areas not visible at time of the inspection.

C. Preinstallation Conference: Conduct conference at Project site.

1. Include installers of other construction connecting to Weather Barrier, such as waterproofing, concrete, joint sealants, windows, and door frames.
2. Review Weather Barrier requirements including surface preparation, substrate condition and pretreatment, minimum substrate curing period, forecasted weather conditions, special details and sheet flashings, mockups, installation procedures.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by Weather Resistant Barrier manufacturer.
- B. Store rolls according to manufacturer's written instructions.
- C. Protect stored materials from direct sunlight and excessive moisture.

1.9 PROJECT CONDITIONS

- A. Environmental Limitations: Apply Weather Barrier within the range of ambient and substrate temperatures recommended by weather barrier manufacturer. Protect substrates from environmental conditions that affect performance of weather barrier. Do not apply weather barrier to a damp or wet substrate or during snow, rain, fog, or mist.

1.10 WARRANTY

- A. Special Warranty: Standard form in which manufacturer agrees to repair or replace weather resistant barrier system, including accessory components, that fail in materials or workmanship within specified warranty period.
  1. Failures include, but are not limited to, the following:
    - a. Manufacturing defects.
    - b. Structural failures of system components.
  2. Material Warranty Period: Fifteen (15) years from date of Substantial Completion.
- B. Special Project Warranty: Installer's Warranty, signed by Installer, covering the Work of this Section, in which Installer agrees to repair or replace components of weather resistant barrier system that fail in materials or workmanship within specified warranty period.
  1. Warranty Period: Two (2) years from date of Substantial Completion.

**PART 2 - PRODUCTS****2.1 PERFORMANCE REQUIREMENTS**

- A. General: Weather Barrier shall be capable of performing as a continuous breathable weather and air barrier. Weather Barrier assemblies shall be capable of accommodating substrate movement, construction material changes, penetrations, and transitions at perimeter conditions without deterioration and air leakage.
- B. Weather Barrier and associated accessories shall be compatible with existing weather barrier and weather barrier accessories.
  - 1. Obtain letter of compatibility compliance with specified weather barrier manufacturer indicated within this Section prior to proceed with Work.
  - 2. Notify Owner and Architect, in writing, if specified weather barrier manufacturer is unable to confirm weather barrier system compatibility compliance or if specified weather barrier manufacturer recommend alternate materials and/or methods for the intended scope of work.
    - a. Provide alternate system and/or system components as part of the submittal process for the Owner and Architect's review and approval, if an alternate system and/or system components are proposed by the specified weather resistant manufacturer.

**2.2 WATER-RESISTIVE BARRIER**

- A. Weather Barrier: Vapor Permeable Weather Resistive Barrier, Single Layer, 1-Ply asphalt saturated kraft Grade D breather type sheathing paper.
  - 1. Manufacturer and Product: Subject to compliance with requirements, provide products by the following basis-of-design manufacturer:
    - a. Basis-of-Design: "Super Jumbo Tex® 60-Minute" by Fortifiber Building Systems Group.
  - 2. Reference Standard; Federal Specification UU-B-790a, Type 1, Grade D, Style 2.
  - 3. Tensile Strength: ASTM D828; MD-80lbsf/in., CD -30 lbsf/in.
  - 4. Moisture Vapor Transmission: 35 grams minimum; ASTM E 96.
  - 5. Water Resistance: 60 minutes minimum (premier); ASTM D 779.
- B. Weather Barrier Tape: Pressure-sensitive plastic tape recommended by weather barrier manufacturer for sealing joints and penetrations in weather barrier.

**2.3 FLEXIBLE FLASHING**

- A. Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded



polyolefin to produce an overall thickness of not less than 20 mil, cold applied, self-adhering membrane.

1. Manufacturer and Product: Subject to compliance with requirements, provide products by the following basis-of-design manufacturer:

- a. Basis-of-Design: "FortiFlash Butyl" self-adhering membrane flashing by Fortifiber Building Systems Group.

- B. Primer for Flexible Flashing: Product recommended in writing by flexible flashing manufacturer for substrate.

## 2.4 DRAINAGE MATERIAL

- A. Drainage Material: Provide product(s) that shall maintain a continuous open space between weather barrier and exterior cladding to create a drainage plane and shall be used under siding.

1. Refer to Division 07, Section "Fiber Cement Siding".
  2. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

## 2.5 ACCESSORIES

- A. General: Auxiliary materials detailed in Drawings and as recommended by Weather Resistive Barrier manufacturer for intended use and compatible with weather barrier.

- B. Sheathing Tape: Subject to compliance with requirements, provide products by the following basis-of-design manufacturer.

1. Basis-of-Design: Fortifiber Building Systems "Sheathing Tape."

- C. Fasteners: 1-inch (25.4mm) plastic cap 0.019-inch-shank-diameter (2.11mm) galvanized steel or stainless steel nail. Fasteners shall be of sufficient length to penetrate through the sheathing.

- D. Sealant: Subject to compliance with requirements, provide products by the following basis-of-design manufacturer:

1. Basis-of-Design: Fortifiber Building Systems "Moistop Sealant."
    2. Reference Standards: AAMA 808.3-92 (exterior perimeter sealing compound); ASTM C-920, Type S, Grade NS, Class 25.
    3. Primer for Sealant: Product recommended by manufacturer of sealant for substrate.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  - 1. Verify that substrates are sound and free of oil, grease, dirt, excess mortar, or other contaminants.
  - 2. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Installation of products indicates acceptance of surfaces and conditions.

**3.2 SURFACE PREPARATION**

- A. Clean, prepare, and treat substrate according to manufacturer's written instructions. Provide clean, dust-free, and dry substrate for weather barrier application.
- B. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks.
- C. Verify that substrate is adequately secured to framing and remove all loose nails, other sharp protrusions or other matter that will hinder the installation of weather barrier or adhesion of flexible flashing.
- D. Self-Adhering Membrane Flashing General: Verify substrate preparation and temperature tolerances with manufacture prior to installation of Self-Adhering Membrane Flashing(s). Self-Adhering Membrane Flashing installed at temperatures at or below 45 deg F (7.2 deg C) may require special preparation and use of butyl only.
- E. Windows, Doors and Louvers:
  - 1. Install in accordance with the recommendations of AAMA 100-07.
  - 2. Install flexible flashing following the shingle principle of overlapping materials. Weather-Resistive Barrier installed after window installation: in accordance with ASTM E 2112.
  - 3. Cover flexible flashing with finish material within the manufacturer's recommended time.

### 3.3 WATER-RESISTIVE BARRIER INSTALLATION

- A. General: Install all weather barrier products in accordance with manufacturer's written recommendations and installation instructions.
  - 1. Install weather barrier with fifty percent (50%) horizontal overlap.
  - 2. Install weather barrier with 12-inch vertical overlap.
  - 3. Begin weather barrier at base of wall with two (2) layers.
- B. Cover exposed exterior surface of sheathing with water-resistive barrier securely fastened to framing immediately after sheathing is installed.
- C. Secure weather barrier and accessories so that the subsurface is protected from weather until finish materials can be installed.
- D. Apply weather barrier and accessories in a shingled manner to shed water.
- E. Install weather barrier laid smooth without folds or bunches of materials.
  - 1. First, wrap penetrations as indicated in Drawings.
  - 2. Start from the bottom, unroll the weather barrier, mechanically fastening top and bottom, 2'-0" o.c. (and in compliance with manufacturer's written installation instructions).
  - 3. Seal against jambs of openings with manufacturer recommended tape lapping weather barrier over flexible flashing at jambs and head. At sill, lap flexible flashing over weather barrier.
  - 4. Vertical laps in weather barrier shall be a minimum of 6" with taped joints. Horizontal laps shall be a minimum of 6".
- F. Inspect and repair membrane prior to application of finish material over membrane. Tape tears, perforations and similar damage.

### 3.4 FLEXIBLE FLASHING INSTALLATION

- A. Apply flexible flashing where indicated to comply with manufacturer's written instructions.
  - 1. Prime substrates as recommended by flashing manufacturer.
  - 2. Lap seams and junctures with other materials as recommended by manufacturer.
  - 3. Lap flashing over water-resistive barrier at bottom and sides of openings.
  - 4. Lap water-resistive barrier over flashing at heads of openings.
  - 5. After flashing has been applied, roll surfaces with a hard rubber or metal roller to ensure that flashing is completely adhered to substrates.

### 3.5 DRAINAGE MATERIAL INSTALLATION

- A. Install drainage material over building wrap and flashing to comply with manufacturer's written instructions.

3.6 FIELD QUALITY CONTROL

- A. Inspections: Weather barrier materials and installation are subject to inspection for compliance with requirements. Inspections may include the following:
1. Continuity of weather barrier system has been achieved throughout the building envelope with no gaps or holes.
  2. Site conditions for application temperature and dryness of substrates have been maintained.
  3. Maximum exposure time of materials to UV deterioration has not been exceeded.
  4. Laps in sheet materials have complied with the minimum requirements and have been shingled in the correct direction.
  5. Compatible materials have been used.
  6. Connections between assemblies (membrane and sealants) have complied with requirements for cleanliness, preparation and priming of surfaces, structural support, integrity, and continuity of seal.
  7. All penetrations have been sealed.

3.7 CLEANING AND PROTECTION

- A. Protect weather barrier system from damage during application and remainder of construction period, according to manufacturer's written instructions.
- B. Clean spills, stains, and soiling from adjacent construction that would be exposed in the completed work using cleaning agents and procedures recommended by manufacturer of affected construction.

**END OF SECTION 072500**

**SECTION 073113 - ASPHALT SHINGLES****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY****A. Section Includes:**

1. Asphalt shingles.
2. Underlayment materials.
3. Self-Adhering sheet underlayment.
4. Metal flashing and trim.
5. Ridge vents.
6. Individual static metal roof vents.

**B. Related Requirements:**

1. Division 01, Section "Unit Prices" for roof sheathing replacement.
2. Division 06, Section "Rough Framing" for wood framing.
3. Division 06, Section "Sheathing" for roof sheathing replacement.
4. Division 07, Section "Preparation for Re-roofing".
5. Division 07, Section "Sheet Metal Flashing and Trim" for sheet metal materials, metal gutters and downspout information.

**1.3 ALLOWANCES**

- A. See Division 01, Section "Allowances" for description of allowances affecting items specified under this Section.

**1.4 UNIT PRICES**

- A. See Section Division 01, Section "Unit Prices" for description of unit prices affecting items specified under this Section.

**1.5 ALTERNATES**

- A. See Division 01, Section "Alternates" for description of alternates affecting items specified under this Section.

## 1.6 REFERENCES

### A. ASTM International (ASTM):

1. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
2. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
3. ASTM D3018 - Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules.
4. ASTM D3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).
5. ASTM D3462 - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
6. ASTM D4586 - Standard Specification for Asphalt Roof Cement, Asbestos- Free.
7. ASTM D4601 - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
8. ASTM D4869 - Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing.
9. ASTM D6757 - Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing.
10. ASTM D7158 - Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method).
11. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
12. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
13. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings.

### B. ICC Evaluation Service (ICC-ES).

1. ICC Approval - ESR-1561: Roofing Felt and Underlayment.
2. ICC Approval - ESR-3150: Asphalt Shingles.
3. ICC-ES AC188: Acceptance Criteria for Roof Underlayments.

### C. Underwriters Laboratory (UL):

1. UL 790 - Standard Test Methods for Fire Tests of Roof Coverings.
2. UL 2218 - Impact Resistance of Prepared Roof Covering Materials.

## 1.7 DEFINITIONS

- A. Roofing Terminology: See ASTM D1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing Work in this Section.
- B. WSRCA - Western States Roofing Contractors Association.

## 1.8 PREINSTALLATION MEETINGS

- A. Conduct conference at Project site with Installer present.

**1.9 COORDINATION**

1. Coordinate with existing and/or new mechanical, plumbing and electrical related items (by others under separate cover) related to roofing Work in this Section.

**1.10 ACTION SUBMITTALS****A. Product Data:** For the following:

1. Asphalt shingles.
2. Underlayment materials.
3. Ridge vents.
4. Asphalt roofing cement.
5. Elastomeric flashing sealant.

**B. Shop Drawings:** Indicate specially configured metal flashing, joining methods and locations, fastening methods and locations of installation details as required by Project conditions.**C. Samples:** For each exposed product and for each color and blend specified, in sizes indicated.

1. Asphalt Shingles: Full size.
2. Ridge and Hip Cap Shingles: Full size.
3. Ridge Vent: 12-inch- (305-mm-) long Sample.
4. Exposed Valley Lining: 12 inches (305 mm) square.

**1.11 INFORMATIONAL SUBMITTALS****A. Qualification Data:** For Installer and Manufacturer.**B. Product Test Reports:** For each type of asphalt shingle and underlayment product indicated, for tests performed by a qualified testing agency.**C. Evaluation Reports:** For high-temperature, self-adhering sheet underlayment, from ICC-ES or other testing and inspecting agency acceptable to the Authorities Having Jurisdiction (AHJ), indicating that product is suitable for intended use under applicable building codes.**D. Sample Warranty:** For manufacturer's materials warranty.**1.12 CLOSEOUT SUBMITTALS****A. Maintenance Data:** For asphalt shingles to include in maintenance manuals.**B. Materials warranties.****C. Roofing Installer's warranty.**

**1.13 MAINTENANCE MATERIAL SUBMITTALS**

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Asphalt Shingles: 100 sq. ft. (9.3 sq. m) of each type and in each color and blend, in unbroken bundles, for each building.

**1.14 QUALITY ASSURANCE**

- A. Installer Qualifications: Installer shall be licensed or otherwise authorized by all federal, state, and local authorities to install all products specified under this Section. Installer shall perform Work in accordance with WSRCA "Western States Roofing Contractors Association".
  - 1. Installer shall have a minimum of five (5) years' experience for projects of this type and magnitude and shall be approved by manufacturer for installing manufacturer's product.
- B. Source Limitations: Obtain roofing shingles, roof accessories, and underlayment materials and components from single-source from single manufacturer.
- C. Maintain minimum of one (1) copy of manufacturer application instructions at the Project Site.
- D. Exterior Fire-Test Exposure: Class A; ASTM E108 or UL 790, for application and roof slopes indicated.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Build mockups for asphalt shingles including related roofing materials.
  - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

**1.15 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver products and installation accessories to Project site in original manufacturer's unopened cartons and containers each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.
- B. Store roofing materials in a dry, well-ventilated location protected from weather, sunlight, and moisture in accordance with manufacturer's written instructions.
- C. Store underlayment rolls on end, on pallets or other raised surfaces. Do not double-stack rolls.
- D. Protect unused roofing materials from weather, sunlight, and moisture when left overnight or when roofing Work is not in progress.



- E. Handle, store, and place roofing materials in a manner to prevent damage to roof deck or structural supporting members.

#### 1.16 FIELD CONDITIONS

- A. Environmental Limitations: Proceed with installation only when existing and forecasted weather conditions permit product installation and related Work to be performed in accordance with manufacturer's written instructions and warranty requirements.
  - 1. Install self-adhering, polymer-modified bitumen sheet underlayment(s) per Building Code and within the range of ambient and substrate temperatures recommended in writing by manufacturer.

#### 1.17 WARRANTY

- A. Materials Warranty: Manufacturer agrees to repair or replace asphalt shingles that fail within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Manufacturing defects.
  - 2. Materials Warranty Period: Fifty (50) years "Limited Lifetime Warranty" from date of Substantial Completion, prorated, with first fifteen (15) years non-prorated.
  - 3. Wind-Speed Warranty Period: Asphalt shingles will resist blow-off or damage caused by wind speeds of up to 110 mph (49 m/s) for five (5) years from date of Substantial Completion.
  - 4. Algae-Resistance Warranty Period: Asphalt shingles will not discolor for fifty (50) years from date of Substantial Completion.
- B. Roofing Installer's Warranty: On warranty form at end of this Section, signed by Installer, in which Installer agrees to repair or replace components of asphalt shingle roofing that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Five (5) years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 SOURCE LIMITATIONS

- A. Obtain each type of shingle and underlayment product from single source from single manufacturer.

#### 2.2 PERFORMANCE REQUIREMENTS

- A. Exterior Fire-Test Exposure: Provide asphalt shingles and related roofing materials identical to those of assemblies tested for Class A fire resistance in accordance with ASTM E108 or UL 790

by Underwriters Laboratories or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency.

- B. Wind Resistance: Provide asphalt shingles that comply with requirements of ASTM D3161/D3161M, Class F, and with ASTM D7158/D7158M, Class H.

## 2.3 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

- A. Laminated-Strip Asphalt Shingles: ASTM D3462/D3462M, laminated, multi-ply overlay construction; glass-fiber reinforced, mineral-granule surfaced, and self-sealing.

1. Manufacturer: Subject to compliance with requirements, provide products from the following manufacturer:

- a. Basis-of-Design: Malarkey Roofing Products.
- b. Acceptable Manufacturer's offering similar products:

- 1) Owens Corning.
- 2) CertainTeed Corporation.

2. Product: Subject to compliance with requirements, provide the following product, or approved equal.

- a. Basis-of-Design: Legacy® 273 Shingle Line featuring Scotchgard™ Protector from 3M.

- 3. Butt Edge: Straight cut.
- 4. Strip Size: Manufacturer's standard.
- 5. Algae Resistance: Granules resist algae discoloration.
- 6. Impact Resistance: UL 2218, Class 4.
- 7. Fire Rating: Class A.
- 8. Color and Blends: As selected by Architect from manufacturer's full range.

- B. Hip and Ridge Shingles: Manufacturer's standard units to match asphalt shingles.

## 2.4 UNDERLAYMENT MATERIALS

- A. General: Subject to compliance with requirements, provide products and accessories acceptable to roof shingle manufacturer.

1. Basis-of-Design: Provide Malarkey "Secure Choice System".

- B. Waterproof Underlayment Sheet: ASTM D226, ASTM D4869, with slip-resistant top surface, top surface, mechanically attached per manufacturer recommendations; and evaluated and documented to be suitable for use for intended purpose under applicable codes by a testing and inspecting agency acceptable to Authorities Having Jurisdiction (AHJ).

1. Product: Subject to compliance with requirements, provide the following product, or approved equal:

- a. Basis-of-Design: 1031 SecureStart™ Plus.
  2. Location: Install at:
    - a. Install underlayment on roof deck not covered by self-adhering sheet underlayment.
  3. Width: 48" rolls.
  4. Thermal Stability: Engineered to perform in all weather conditions -40 deg F (-40 deg C) to 240 deg F (116 deg C).
- C. Self-Adhering, Waterproof Underlayment Sheet: ASTM D1970/D1970M, minimum 50-mil- (1.0-mm-) thick sheet; glass-fiber-mat-reinforced, polymer-modified asphalt; with slip-resistant top surface and release backing; cold applied; and evaluated and documented to be suitable for use for intended purpose under applicable codes by a testing and inspecting agency acceptable to Authorities Having Jurisdiction (AHJ).
1. Product: Subject to compliance with requirements, provide the following product, or approved equal:
    - a. Basis-of-Design: 401 Arctic Seal®.
  2. Location: Install at:
    - a. Ridge.
    - b. Valleys.
    - c. Eaves.
    - d. Gable and Rake Ends.
    - e. Roof-to-Wall transitions.
  3. Width: 36" rolls.
  4. Thermal Stability: Stable after testing at 240 deg F (116 deg C) according to ASTM D 1970/D 1970M.
  5. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C) according to ASTM D 1970/D 1970M.
- D. Granular-Surfaced Valley Lining: ASTM D6380/D6380M, Class M, organic-felt-based, asphalt roll roofing; 36-inches (914 mm) wide.

## 2.5 RIDGE VENTS

- A. Rigid Ridge Vent: Manufacturer's standard, rigid-section, pre-finished metal ridge vent for use under ridge shingles.
1. Manufacturer: Subject to compliance with requirements, provide products and accessories acceptable and compatible to roof shingle manufacturer:
    - a. Basis-of-Design: Air Vent, Inc.
    - b. Or approved equal.

2. Minimum Net Free Area: As indicated on Drawings.
3. Width: As indicated on Drawings.
4. Thickness: As indicated on Drawings.
5. Features:
  - a. Nonwoven geotextile filter strips.
  - b. External deflector baffles.

## 2.6 STATIC METAL ROOF VENTS

- A. General. Provide and install individual static metal roof vents.
  1. Manufacturer: Subject to compliance with requirements, provide products and accessories acceptable and compatible to roof shingle manufacturer:
    - a. Basis-of-Design: Air Vent, Inc.
    - b. Or approved equal.
  2. Product: Subject to compliance with requirements, provide products and accessories acceptable and compatible to roof shingle manufacturer
    - a. Basis-of-Design: As indicated on Drawings.
  3. Finish: Pre-Finished galvanized metal.
    - a. Plastic roof vents are NOT allowed.
  4. Color: As selected by Architect from manufacturer's full color range.
- B. Provide galvanized insect screen material at all openings.
- C. Provide and install quantity required to comply with ventilation calculation requirements indicated on Drawings.

## 2.7 ACCESSORIES

- A. Asphalt Roofing Cement: ASTM D4586/D4586M Type II, asbestos free.
- B. Elastomeric Flashing Sealant: ASTM C920, Type S, Grade NS, one-part, non-sag, elastomeric polymer sealant; of class and use classifications required to seal joints and remain watertight; recommended in writing by manufacturer for installation of flashing systems.
- C. Roofing Nails: ASTM F1667, stainless steel or hot-dip galvanized-steel wire shingle nails, minimum 0.120-inch- (3-mm-) diameter, sharp-pointed, with a 3/8- to 7/16-inch- (10- to 11-mm-) diameter flat head and of sufficient length to penetrate 3/4 inch (19 mm) into solid wood decking or extend at least 1/8 inch (3 mm) through sheathing less than 3/4 inch (19 mm) thick.
  1. Shank: Barbed.

2. Where nails are in contact with metal flashing, use nails made from same metal as flashing.
- D. Underlayment Nails: Aluminum, stainless steel, or hot-dip galvanized-steel wire nails with low-profile metal or plastic caps, 1-inch- (25-mm-) minimum diameter, and of sufficient length to penetrate at least 3/4 inch (19 mm) into roof sheathing or as required by roofing manufacturer. The most restrictive requirement shall govern.

## 2.8 METAL FLASHING AND TRIM

- A. Comply with requirements in Division 07, Section "Sheet Metal Flashing and Trim", and as detailed on Drawings for sheet metal finish and configurations.
- B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of the item unless otherwise specified in this Section or indicated on Drawings.
  1. Apron Flashings: Fabricate with lower flange a minimum of 4-inches (102 mm) over and 4-inches (102 mm) beyond each side of downslope asphalt shingles and 6-inches (152 mm) up the vertical surface.
  2. Step Flashings: Fabricate with a headlap of 2-inches (51 mm) and a minimum extension of 4-inches (102 mm) over the underlying asphalt shingle and up the vertical surface.
  3. Cricket and Backer Flashings: Fabricate with concealed flange extending a minimum of 24 inches (610 mm) beneath upslope asphalt shingles and 6 inches (152 mm) beyond each side of chimney, skylight, or similar vertical penetrating elements, when occurs, and 6 inches (152 mm) above the roof plane.
  4. Counterflashings: Fabricate to cover 4-inches (102 mm) of base flashing measured vertically; and in lengths required so that no step exceeds 8-inches (203 mm) and overall length is no more than 10-feet (3 m).
  5. Open-Valley Flashings: Fabricate from metal sheet not less than 24-inches (610 mm) wide in lengths not exceeding 10-feet (3 m), with 1-inch- (25-mm-) high, inverted-V profile water diverter at center of valley and equal flange widths of not less than 11-inches (279 mm).
    - a. Hem flange edges for fastening with metal cleats.
    - b. Add stiffening ribs in flashings to promote drainage.
  6. Drip Edges: Fabricate in lengths not exceeding 10-feet (3 m) with minimum 2-inch (51-mm) roof-deck flange and 1-1/2-inch (38-mm) fascia flange with 3/8-inch (10-mm) drip at lower edge, unless otherwise noted on Drawings.
  7. Vent-Pipe Flashings: ASTM B749, Type L51121, at least 1/16 inch (1.6 mm) thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof, and extending at least 4-inches (102 mm) from pipe onto roof.
    - a. Use lead vent jacks at plumbing vents, unless otherwise noted.
    - b. Use galvanized metal sleeves for vent pipe flashings.
    - c. Neoprene vent jack boots are NOT allowed.
    - d. Coordinate with Mechanical and Plumbing Drawings and Specifications for related items related to roofing Work in this Section.
    - e. Provide galvanized insect screen material at all openings.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  - 1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
  - 2. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
  - 3. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored and that provisions have been made for flashings and penetrations through asphalt shingles.
  - 4. Verify that vent stacks and other penetrations through roofing are installed and securely fastened.
- B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Installation of products indicates acceptance of surfaces and conditions.

**3.2 INSTALLATION OF UNDERLAYMENT MATERIALS**

- A. General: Comply with underlayment manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
- B. Comply with asphalt shingle and underlayment manufacturers' written installation instructions and with recommendations in WSRCA's applicable to products and applications indicated unless more stringent requirements are specified in this Section or indicated on Drawings.
- C. Provide "Basis-of-Design" Manufacturer's underlayment system and materials (which includes specific underlayment and flashing). System shall be installed per manufacturer's written recommendations and instructions in a specific manner.
  - 1. Installation shall comply with manufacturer's written recommendations and instructions, but not less than what is indicated in this Article 3.2, whichever is more stringent.
- D. Underlayment: Install two (2) layers of manufacturers approved underlayment on roof deck parallel with and starting at eaves and per manufacturer approved method.
  - 1. Lap sides a minimum of 2-inches (50 mm) over underlying course.
  - 2. Lap ends a minimum of 4-inches (102 mm).

3. Stagger end laps between succeeding courses at least 72-inches (1829 mm).
  4. Fasten with manufacturer approved mechanical fasteners.
  5. Install underlayment on roof deck not covered by self-adhering sheet underlayment, unless otherwise specified in this Section or indicated on Drawings.
    - a. Lap sides of felt over self-adhering sheet not less than 4-inches (102 mm) in direction that sheds water.
    - b. Lap ends of felt not less than 6-inches (152 mm) over self-adhering sheet.
  6. Install fasteners in a grid pattern of 12-inches (305 mm) between side laps with 6-inch (152-mm) spacing at side and end laps, unless otherwise noted by manufacturer.
  7. Terminate felt against sidewalls, curbs, chimneys, and other roof projections.
    - a. Coordinate interface and lapping requirements with manufacturer for self-adhering membrane underlayment and metal counter-flashing configurations at vertical penetrations.
- E. Self-Adhering Sheet Underlayment: Install two (2) layers of manufacturers approved underlayment, wrinkle free, on roof deck.
1. Comply with low-temperature installation restrictions of underlayment manufacturer.
  2. Install lapped in direction that sheds water.
    - a. Lap sides not less than 4-inches (102 mm).
    - b. Lap ends not less than 6-inches (152 mm), staggered 24-inches (610 mm) between succeeding courses.
    - c. Roll laps with roller.
  3. When applicable for this Project, prime concrete, masonry, and metal surfaces to receive self-adhering sheet.
  4. Eaves: Extend from edges of eaves 24-inches (610 mm) beyond interior face of exterior wall.
  5. Rakes: Extend from edges of rakes 24-inches (610 mm) beyond interior face of exterior wall.
  6. Valleys: Extend from lowest to highest point 18-inches (457 mm) on each side of centerline.
  7. Hips: Extend 18-inches (457 mm) on each side.
  8. Ridges: Extend 36-inches (914 mm) on each side without obstructing continuous ridge vent slot, when occurs.
  9. Sidewalls: Extend 18-inches (457 mm) beyond sidewalls and return vertically against sidewalls not less than 4-inches (102 mm).
  10. Dormers, Chimneys, Skylights, and Other Roof-Penetrating Elements (when applicable for this Project): Extend 18-inches (457 mm) beyond penetrating elements and return vertically against penetrating elements not less than 4-inches (102 mm).
  11. Roof-Slope Transitions: Extend 18-inches (457 mm) on each roof slope.
  12. Cover underlayment within seven (7) days of installation.
- F. Metal-Flashed, Open-Valley Underlayment Elements (when applicable for this Project): Install two layers of minimum 36-inch- (914-mm-) wide underlayment centered in valley.
1. Use approved self-adhering membrane underlayment.

2. Stagger end laps between layers at least 72-inches (1829 mm).
3. Lap ends of each layer at least 12-inches (305 mm) in direction that sheds water, and seal with asphalt roofing cement.
4. Adhere each layer to roof deck per manufacturer recommendations.
5. Lap roof-deck underlayment over first layer of valley underlayment at least 6-inches (152 mm).

### 3.3 INSTALLATION OF METAL FLASHING AND TRIM

- A. Install metal flashings and trim to comply with requirements in Division 07, Section “Sheet Metal Flashing and Trim” and as detailed on Drawings.
  1. Install metal flashings in accordance with recommendations in ARMA's “Asphalt Roofing Residential Manual - Design and Application Methods” and WSRCA guidelines.
  2. Bed flanges of metal flashings using asphalt roofing cement or elastomeric flashing sealant.
- B. Apron Flashings: Extend lower flange over and beyond each side of downslope asphalt shingles and up the vertical surface.
- C. Backer Flashings: Install against the roof-penetrating element, extending concealed flange beneath upslope asphalt shingles and beyond each side.
- D. Step Flashings: Install with a headlap of 2-inches (51 mm) and extend over underlying shingle and up the vertical face.
  1. Install with lower edge of flashing just upslope of, and concealed by, butt of overlying shingle.
  2. Fasten to roof deck only.
- E. Cricket and Backer Flashings: Install against roof-penetrating elements extending concealed flange beneath upslope asphalt shingles and beyond each side.
- F. Counterflashings: Coordinate with installation of base flashing and fit tightly to base flashing. Lap joints a minimum of 4-inches (102 mm) secured in a waterproof manner.
  1. Install in reglets or receivers where indicated or recommended by roofing manufacturer.
- G. Open-Valley Flashings: Install centered in valleys, lapping ends at least 8-inches (203 mm) in direction that sheds water. Fasten upper end of each length to roof deck beneath overlap.
  1. Secure hemmed flange edges into metal cleats spaced 12-inches (305 mm) apart and fastened to roof deck.
  2. Adhere minimum 9-inch- (229-mm-) wide strips of self-adhering, polymer-modified bitumen sheet to metal flanges and to underlying self-adhering sheet, polymer-modified bitumen sheet.
    - a. Place strips parallel to and over flanges so that they will be just concealed by installed shingles.



3. Provide a closure at the end of the inverted-V profile of the valley metal to minimize water and ice infiltration.

H. Rake Drip Edges: Install over underlayment materials and fasten to roof deck.

I. Eave Drip Edges: Install below underlayment materials and fasten to roof deck.

J. Pipe Flashings: Form flashing around pipe penetrations and asphalt shingles. Fasten and seal to asphalt shingles as recommended by manufacturer.

### 3.4 INSTALLATION OF ASPHALT SHINGLES

A. Install asphalt shingles in accordance with manufacturer's written instructions and recommendations in ARMA's "Asphalt Roofing Residential Manual - Design and Application Methods" and WSRCA guidelines.

B. Install starter strip along lowest roof edge, consisting of an asphalt shingle strip with tabs removed at least 7-inches (178 mm) wide with self-sealing strip face up at roof edge.

1. Extend asphalt shingles 3/4-inch (19 mm) over fasciae at eaves and rakes.
2. Install starter strip along rake edge.

C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.

D. Fasten asphalt shingle strips with a minimum of four (4) roofing nails, but not less than the number indicated in manufacturer's written instructions for roof slope and design wind speed indicated on Drawings and for warranty requirements specified in this Section.

1. Locate fasteners in accordance with manufacturer's written instructions.
2. Where roof slope is less than 4:12, hand seal self-sealing asphalt shingles to improve the shingles' positive bond by applying asphalt roofing cement spots between course overlaps after nailing the upper course.
3. When ambient temperature during installation is below 50 deg F (10 deg C), seal self-sealing asphalt shingles by applying asphalt roofing cement spots between course overlaps after nailing the upper course.

E. Open Valleys: Cut and fit asphalt shingles at open valleys, trimming upper concealed corners of shingle strips.

1. Maintain uniform width of exposed open valley from highest to lowest point.
2. Extend shingle a minimum of 4-inches (102 mm) over valley metal.
3. Set valley edge of asphalt shingles in a 3-inch- (76-mm-) wide bed of asphalt roofing cement.
4. Do not nail asphalt shingles to metal open-valley flashings.

F. Ridge Vents: Install continuous ridge vents over asphalt shingles in accordance with manufacturer's written instructions. Fasten with roofing nails of sufficient length to penetrate sheathing.

- G. Hip and Ridge Shingles: Maintain same exposure of cap shingles as roofing-shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds.
1. Fasten with roofing nails of sufficient length to penetrate sheathing.
  2. Fasten ridge cap asphalt shingles to cover ridge vent without obstructing airflow.

### 3.5 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS \_\_\_\_\_ of \_\_\_\_\_, herein called the "Roofing Installer," has performed roofing and associated work ("the work") on the following project:

1. Owner: **Vancouver Housing Authority**
2. Owner Address: **2500 Main Street, Vancouver, Washington 98660**
3. Building Name/Type: **Fishers Mill Apartments - Building ' '**
4. Building Address: **1000 SE 160th Avenue, Vancouver, Washington, 98683**
5. Area of the Work: \_\_\_\_\_
6. Acceptance Date: \_\_\_\_\_
7. Warranty Period: \_\_\_\_\_
8. Expiration Date: \_\_\_\_\_

- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant the work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that, during Warranty Period, Roofing Installer will, at Roofing Installer's own cost and expense, make or cause to be made such repairs to or replacements of the work as are necessary to correct faulty and defective work and as are necessary to maintain the work in a watertight condition.

- D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to the work and other parts of the building, and to building contents, caused by:
  - a. Lightning;
  - b. Peak gust wind speed exceeding **110 mph (49 m/s)**;
  - c. Fire;
  - d. Failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
  - e. Faulty construction of copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
  - f. Vapor condensation on bottom of roofing; and
  - g. Activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

2. When the work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to the work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of the work.
4. During Warranty Period, if Owner allows alteration of the work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of the alterations, but only to the extent the alterations affect the work covered by this Warranty. If Owner engages Roofing Installer to perform the alterations, Warranty shall not become null and void unless Roofing Installer, before starting the alterations, notified Owner in writing, showing reasonable cause for claim, that the alterations would likely damage or deteriorate the work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a use or service more severe than originally specified, this Warranty shall become null and void on date of the change, but only to the extent the change affects the work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect the work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on the work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of the work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

1. Authorized Signature: \_\_\_\_\_
2. Name: \_\_\_\_\_
3. Title: \_\_\_\_\_

**END OF SECTION 073113**

**SECTION 074646 - FIBER-CEMENT SIDING****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. Section includes fiber-cement siding.

- 1. Fiber-cement lap siding, factory primed.
- 2. Fiber-cement trim.
- 3. Accessories, including but not limited to:
  - a. Rain screen battens.
  - b. Ventilation.

- B. Related Requirements:

- 1. Division 01, Section "Unit Prices" for removal and replacement of unsatisfactory exterior plywood sheathing at exterior walls.
- 2. Division 01, Section "Construction Waste Management and Disposal" for construction waste management and disposal requirements.
- 3. Division 02, Section "Selective Demolition" for demolition of existing vinyl siding and other building elements.
- 4. Division 06, Section "Rough Carpentry" for wood furring, grounds, nailers, and blocking.
- 5. Division 06, Section "Sheathing" for replacement of unsatisfactory plywood wall sheathing.
- 6. Division 06, Section "Exterior Finish Carpentry" for standing and running exterior trim.
- 7. Division 07, Section "Weather Barriers" for weather-resistive barriers.
- 8. Division 07, Section "Sheet Metal Flashing and Trim".
- 9. Division 07, Section "Joint Sealants" for applying joint sealants at and around adjacent surfaces.
- 10. Division 09, Section "Exterior Painting" for field painting finish.

**1.3 COORDINATION**

- A. Coordinate siding installation with flashings and other adjoining construction to ensure proper sequencing.

**1.4 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at Project with Installer present.

**1.5 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
  - 1. Manufacturer's written preparation and installation recommendation and instructions.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
  - 4. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Include Project related construction details which include plans, elevations, sections, accessories, rain and ventilation screens, and details of installation adjoining to adjacent surfaces, including anchor, flashing, and sealant installation.
  - 1. Provide detailed drawings of atypical, non-standard applications of products and materials which are outside the standard details and specifications provided by the manufacturer.
  - 2. Details shall be drawing to scale, and at 3" = 1'-0".
- C. Samples: For each type, color, texture, and pattern required.
  - 1. 12-inch- (300-mm-) long-by-actual-width Sample of siding.
  - 2. 12-inch- (300-mm-) long-by-actual-width Samples of trim and accessories.

**1.6 INFORMATIONAL SUBMITTALS**

- A. Product Certificates: For each type of fiber-cement product from manufacturer.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for fiber-cement siding.
- C. Research/Evaluation Reports: For each type of fiber-cement siding required, from ICC-ES.
- D. Sample Warranty: For manufacturer and installer warranties.

**1.7 CLOSEOUT SUBMITTALS**

- A. Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.
- B. Warranties: Include final warranties in Project Warranty manuals.

**1.8 MAINTENANCE MATERIAL SUBMITTALS**

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Furnish full lengths of fiber-cement siding including related accessories, in a quantity equal to two (2) percent of amount installed.
  - 2. Extra maintenance materials are not required for this Project.

**1.9 QUALITY ASSURANCE**

- A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for fabrication and installation.
  - 1. Contractor shall build “in-place mockup” (no free-standing mockup) of typical wall area which incorporates all components of entire assembly, at a location recommended by the Contractor and approved by the Architect and Owner.
  - 2. Prior to constructing mockups, Contractor shall obtain Architect’s approval of Contractor’s recommended location and mutually agreed upon time for reviewing the mockups.
  - 3. Build mockups for fiber-cement siding including accessories and the following.
    - a. Size: As appropriate to fully demonstrate aesthetic effects and to set quality standards for fabrication and installation, but not less than 12’-0” long by 5’-0” high.
    - b. Include outside corner on one end of mockup and inside corner on other end.
    - c. Include sample of typical wall and soffit penetrations, intersections and flashings.
  - 4. Contractor shall comply and coordinate demonstration of mockups with Division 01, Section “Quality Requirements” for full-size physical assemblies of mockups and Division 07, Section “Sheet Metal Flashing and Trim”.
  - 5. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 6. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

**1.10 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver and store packaged materials in original containers with labels intact until time of use.
- B. Store materials on elevated platforms, under cover, and in a dry location.

**1.11 WARRANTY**

- A. Manufacturer’s Warranty: Manufacturer shall provide written warranty which states that the manufacturer agrees to repair or replace products that fail in materials or workmanship, at no cost to the Owner, within specified warranty period.

1. Failures include, but are not limited to, the following:
    - a. Structural failures including cracking and deforming.
    - b. Deterioration of materials beyond normal weathering.
    - c. Damage due to hail and termite damage and defects in materials.
  2. Warranty Period for all manufacturer provided products: Thirty (30) years from date of Substantial Completion.
- B. Installer's Warranty/Guarantee: Provide written Warranty/Guarantee to Owner in which Installer agrees to repair or replace provided products (including demolition and haul-off) including but not limited to fiber-cement siding and systems, trim, flashings, sealants, fasteners and accessories against defective materials and/or workmanship, to remain watertight and weatherproof with normal usage, at no cost to the Owner, within specified warranty period.
1. Warrant/Guarantee Period: Two (2) years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain products, including related accessories, from single source from single manufacturer.

### 2.2 FIBER-CEMENT SIDING

- A. General: ASTM C1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E136; with a Flame-Spread Index = 0, Smoke Developed Index = 5, when tested according to ASTM E84.
- B. Manufacturer: Subject to compliance with requirements, provide products by:
1. Basis-of-Design Manufacturer: James Hardie, [www.jameshardie.com](http://www.jameshardie.com).
- C. Products: Subject to compliance with requirements, provide the following products:
1. Basis-of-Design Product: HardiePlank® Lap Siding:
    - a. Pattern: Horizontal.
    - b. Width: Match Existing.
    - c. Exposure: Match Existing.
    - d. Thickness: 0.312-inch.
    - e. Length: 12'-0" planks.
    - f. Texture: Match Existing.
    - g. Factory Priming: Provide standard universal primer applied in factory by manufacturer.
    - h. Finish: Field paint finish.

- D. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C1186 by a qualified testing agency acceptable to authorities having jurisdiction.

### 2.3 FIBER-CEMENT TRIM

- A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a Flame Spread Index = 0, Smoke Developed Index = 5 when tested according to ASTM E 84.
- B. Manufacturer: Subject to compliance with requirements, provide products by:
  - 1. Basis-of-Design Manufacturer: James Hardie, [www.jameshardie.com](http://www.jameshardie.com).
- C. Products: Subject to compliance with requirements, provide the following products:
  - 1. Basis-of-Design Product: Hardie Trim Boards.
- D. Location: As noted on Architectural Drawings around new sliding doors, building corners, etc
- E. Nominal Width and Size: Refer to Drawings for location and size.
- F. Texture: Match Existing.
- G. Factory Priming: Provide standard universal primer applied in factory by manufacturer.
- H. Finish: Field paint finish.

### 2.4 ACCESSORIES

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, flashing, rain screen clips and other items as recommended by siding manufacturer for building configuration.
  - 1. Provide accessories matching color and texture of adjacent siding unless otherwise indicated.
- B. Flashing: Provide flashing complying with Division 07, Section "Sheet Metal Flashing and Trim" at window and door heads and where indicated.
- C. Fasteners:
  - 1. Fasteners: For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1-inch into substrate as recommended by panel manufacturer, of equal or greater holding power than required by manufacturer's Code compliance reports, but not less than 1-3/4" fastener length.
  - 2. For fastening fiber cement, use stainless-steel fasteners.
    - a. Fasteners shall be of high-quality stainless steel to ensure resistance to corrosion. For field painting, fasteners should be treated to accept paint adhesion



- D. Rain Screen Ventilation: Provide and install continuous strip ventilation system at top and bottom of rain screen system. Refer to Drawings for location(s) and detailing.
  - 1. Basis-of-Design Product: Cor-A-Vent Model #S400.
- E. Rain Screen Battens: Provide 5-ply, "Borate" (not ACQ) pressure treated applied after cutting fully-saturated plywood strips, (1/2-inch thick by 3-inch wide) rain screen battens at locations as indicated on Drawings to allow air flow through rain screen areas.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of fiber-cement siding and related accessories. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  - 1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Installation of products indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

### 3.3 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
  - 1. As a minimum, comply with manufacturer's instructions and recommendations for:
    - a. General Requirements.
    - b. General Fastening Requirements.
    - c. Joint Treatment installation.
    - d. Flashing recommendations.
    - e. Clearances.
    - f. Requirements for Blind Nailing lap siding.
    - g. Caulking and sealants.
    - h. Fastener Requirements.
    - i. Jointing Methods.

2. Do not install damaged components.
  3. Install fasteners no more than 24-inches (600 mm) o.c., or as recommended by manufacturer and approved shop drawings.
  4. Pneumatic Fastening: Refer to manufacturer's written instructions and recommendations if Contractor elects to use pneumatic fastening tools.
- B. Installation of Fiber Cement siding and trim assemblies shall be per manufacturer's written recommendations and instructions.
- C. Install joint sealants as specified in Division 07, Section "Joint Sealants" and to produce a weathertight installation.

#### 3.4 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

**END OF SECTION 074646**

**SECTION 076200 - SHEET METAL FLASHING AND TRIM****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY****A. Section Includes:**

1. Formed roof-drainage sheet metal fabrications.
2. Formed steep-slope roof sheet metal fabrications.
3. Formed wall sheet metal fabrications.

**B. Related Requirements:**

1. Division 06, Section "Rough Carpentry" wood nailers, curbs, and blocking.
2. Division 06, Section "Sheathing".
3. Division 07, Section "Weather Barriers" for installation of manufactured sheet metal through-wall flashing and trim integral with weather barrier system.
4. Division 07, Section "Asphalt Shingles" for installation of manufactured sheet metal flashing and trim integral with asphalt roofing system.
5. Division 07, Section "Joint Sealants".

**1.3 COORDINATION**

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

**1.4 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at Project Site, with Installer present.
  1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  2. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.
  3. Review requirements for insurance and certificates if applicable.
  4. Review sheet metal flashing observation and repair procedures after flashing installation.

**1.5 ACTION SUBMITTALS**

- A. Product Data: For each type of product specified.
- B. Shop Drawings: For sheet metal flashing and trim.
  - 1. Include plans, elevations, sections, and attachment details.
  - 2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled Work.
  - 3. Include identification of material, thickness, weight, and finish for each item and location in Project.
  - 4. Include details for forming, including profiles, shapes, seams, and dimensions.
  - 5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
  - 6. Include details of termination points and assemblies.
  - 7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
  - 8. Include details of roof-penetration flashing.
  - 9. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, flashings, and counter-flashings.
  - 10. Include details of special conditions.
  - 11. Include details of connections to adjoining work.
  - 12. Detail formed flashing and trim at scale of not less than 1-1/2 inches per 12 inches (1:10).
- C. Samples: For each type of exposed finish.
  - 1. Sheet Metal Flashing: 12-inches (300 mm) long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
  - 2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12-inches (300 mm) long and in required profile. Include fasteners and other exposed accessories.
  - 3. Unit-Type Accessories and Miscellaneous Materials: Full-size Sample.
  - 4. Anodized Aluminum Samples: Samples to show full range to be expected for each color required.

**1.6 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For fabricator and Installer.
- B. Sample Warranty: For special warranty.

**1.7 CLOSEOUT SUBMITTALS**

- A. Maintenance Data and Product Data: Provide manufacturer's written recommended maintenance data and product data for for sheet metal flashing and trim, and its accessories, including methods for maintaining as well as precautions for use of cleaning materials and methods that could be detrimental to finishes and performance. Include in operation and maintenance manuals.

- B. Warranties: Include warranty(s) in Project warranty manual.
- C. Upon completion of work of this Section, provide Owner with all maintenance materials from work of this Section that are packaged with protective covering for Owner's storage and identified with labels describing contents.

#### 1.8 QUALITY ASSURANCE

- A. Single-Source Responsibility: Obtain each type, color and pattern of sheet metal flashing and trim, and accessories, from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.
- B. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
- C. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation. Contractor to recommend locations with approval from Architect.
  - 1. Build mockup of typical roof edge eave, including fascia trim, gutter and accessories, approximately 10-feet (3.0 m) long, including supporting construction cleats, seams, attachments, underlayment, and accessories.
  - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Owner and Architect specifically approves such deviations in writing.
  - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.
  - 1. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
  - 2. Protect stored sheet metal flashing and trim from contact with water.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

#### 1.10 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period, at no cost to the Owner.
  - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

- a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
  - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
  - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Finish Warranty Period: Ten (10) years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Sheet metal flashing and trim assemblies, including cleats, anchors, and fasteners, shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual: Architectural Metal Flashing, Condensation and Air Leakage Control, and Reroofing", Western States Roofing Contractors Association guidelines and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. FM Approvals Listing: Manufacture and install roof edge flashings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-90. Identify materials with name of fabricator and design approved by FM Approvals.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
  1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

### 2.2 SHEET METALS

- A. Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B209 (ASTM B209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
  1. Factory Prime Coating: Where painting after installation is required, pretreat metal with white or light-colored, factory-applied, baked-on epoxy primer coat; minimum dry film thickness of 0.2 mil (0.005 mm).

2. Exposed Coil-Coated Finish:
    - a. Three-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  3. Color: Match Architect's sample.
  4. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil (0.013 mm).
- C. Stainless Steel Sheet: ASTM A240/A240M, Type 304, dead soft, fully annealed; with smooth, flat surface.
1. Finish: ASTM A480/A480M, No. 2D (dull, cold rolled).
    - a. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- D. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet in accordance with ASTM A653/A653M, G90 (Z275) coating designation; pre-painted by coil-coating process to comply with ASTM A755/A755M.
1. Surface: Smooth, flat and with manufacturer's standard clear acrylic coating on both sides.
  2. Exposed Coil-Coated Finish:
    - a. Three-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  3. Color: Refer to "Exterior Finish Legend" on Drawings for colors.
  4. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil (0.013 mm).

## 2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D226/D226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
1. NOTE: This underlayment material is intended for use when sheet metal flashing and trim is applied directly over dissimilar metals or corrosive substrates.
- B. Refer to and coordinate with following specification sections for additional information regarding underlayment materials and systems:
1. Division 07, Section "Weather Barriers".
  2. Division 07, Section "Asphalt Shingles".

3. Division 07, Section "Fiber-Cement Siding".

## 2.4 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
  1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
    - a. Exposed Fasteners: Heads matching color of sheet metal. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
    - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
    - c. Spikes and Ferrules: Spikes and ferrules are Not allowed for securing roof gutters.
  2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
  3. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel in accordance with ASTM A153/A153M or ASTM F2329.
- C. Solder:
  1. For Stainless Steel: ASTM B32, Grade Sn60, with acid flux of type recommended by stainless steel sheet manufacturer.
  2. For Zinc-Coated (Galvanized) Steel: ASTM B32, with maximum lead content of 0.2 percent.
- D. Gutter Sealant: Base polymer consisting of nitrile rubber.
  1. Basis-of-Design: The Ruscoe Company.
    - a. Ruscoe 12-1 Seam Sealer.
    - b. Ruscoe 12-3 Self-Leveling.
    - c. Ruscoe 12-4 Non-Sag.
- E. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
- F. Elastomeric Sealant: ASTM C920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.



- G. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- H. Bituminous Coating: Cold-applied asphalt emulsion in accordance with ASTM D1187/D1187M.
- I. Asphalt Roofing Cement: ASTM D4586, asbestos free, of consistency required for application.

## 2.5 FABRICATION, GENERAL

- A. Custom fabricate sheet metal flashing and trim to comply with details indicated and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required.
  - 1. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
  - 2. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
  - 3. Verify shapes and dimensions of surfaces to be covered and obtain field measurements for accurate fit before shop fabrication.
  - 4. Form sheet metal flashing and trim to fit substrates without excessive oil-canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
  - 5. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances:
  - 1. Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.
  - 2. Fabricate sheet metal flashing and trim that is capable of installation to tolerances specified.
- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
  - 1. Form expansion joints of intermeshing hooked flanges, not less than 1-inch (25 mm) deep, filled with butyl sealant concealed within joints.
  - 2. Use lapped expansion joints only where indicated on Drawings.
- D. Sealant Joints: Where movable, non-expansion-type joints are required, form metal in accordance with cited sheet metal standard to provide for proper installation of elastomeric sealant.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard and by FM Global Property Loss Prevention Data Sheet 1-49 for application, but not less than thickness of metal being secured.

## G. Seams:

1. Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
2. Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

## H. Do not use graphite pencils to mark metal surfaces.

## I. Fabricated flashing assemblies at all locations to be clinch locked and blind sealed at all locations, unless otherwise noted on Drawings and where fully soldered stainless steel flashing assemblies are specified.

## 2.6 ROOF-DRAINAGE SHEET METAL FABRICATIONS

## A. Hanging Gutters:

1. Fabricate to cross section required, complete with end pieces, outlet tubes, and other accessories as required.
2. Fabricate in minimum 96-inch- (2400-mm-) long sections.
3. Furnish flat-stock gutter brackets and flat-stock gutter spacers and straps fabricated from same metal as gutters, of size recommended by cited sheet metal standard, but with thickness not less than twice the gutter thickness.
4. Fabricate expansion joints, expansion-joint covers, and gutter accessories from same metal as gutters. Shop fabricate interior and exterior corners.
5. Gutter Profile: 6-inch fascia-style gutters in accordance with cited sheet metal standard.
6. Expansion Joints: Butt type with cover plate.
7. Accessories: Use clean-out strainer above grade at downspout, as indicated on Drawings.
8. Gutters with Girth up to 15-Inches (380 mm): Fabricate from the following materials:
  - a. Galvanized Steel (Pre-Primed): 26-gauge thick.

## B. Downspouts: Fabricate rectangular downspouts to dimensions indicated on Drawings, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors. Shop fabricate elbows.

1. Fabricated Hanger Style: As detailed on Drawings and comply with SMACNA's "Architectural Sheet Metal Manual."
2. Fabricate from the following materials:
  - a. Galvanized Steel (Pre-Primed): 0.022 inch (0.56 mm) thick.

## 2.7 STEEP-SLOPE ROOF SHEET METAL FABRICATIONS

## A. Apron, Step, Cricket, and Backer Flashing: Fabricate from the following materials:

1. Metallic coated (pre-finished), galvanized steel (pre-primed): 26-gauge (0.022 inch (0.56 mm)) thick.

B. Valley Flashing: Fabricate from the following materials:

1. Metallic coated (pre-finished), galvanized steel (pre-primed): 24-gauge (0.028 inch (0.71 mm)) thick.

C. Drip Edges: Fabricate from the following materials:

1. Metallic coated (pre-finished), galvanized steel (pre-primed): 26-gauge (0.022 inch (0.56 mm)) thick.

D. Eave, Rake, Ridge, and Hip Flashing: Fabricate from the following materials:

1. Metallic coated (pre-finished), galvanized steel (pre-primed): 26-gauge (0.022 inch (0.56 mm)) thick.

E. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:

1. Metallic coated (pre-finished), galvanized steel (pre-primed): 26-gauge (0.022 inch (0.56 mm)) thick.

F. Roof-Penetration Flashing: Fabricate from the following materials:

1. Metallic coated (pre-finished), galvanized steel (pre-primed): 24-gauge (0.028 inch (0.71 mm)) thick.

## 2.8 WALL SHEET METAL FABRICATIONS

A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch- (2400-mm-) long, but not exceeding 12-foot- (3.6-m-) long, sections. Fabricate from the following materials:

1. Galvanized Steel (Pre-primed), 26-gauge (0.022 inch (0.56 mm)) thick.
2. Flashing to be shop fabricated, clinch locked with matching color sealant as detailed on Drawings.

B. Opening Flashings in Frame Construction: Fabricate head, sill, pan flashing and similar flashings with end dams as detailed on Drawings. Fabricate from the following materials:

1. Window Head Flashing: Galvanized Steel (Pre-primed), 26-gauge (0.022 inch (0.56 mm)) thick.
2. Sliding Door Threshold Flashing: Galvanized Steel (Pre-primed), 24-gauge (0.025 inch) thick.
3. Flashing to be shop fabricated, clinch locked with matching color sealant as detailed on Drawings.

## 2.9 MISCELLANEOUS SHEET METAL FABRICATIONS

A. Equipment Support Flashing (when indicated on Drawings for this Project): Fabricate from the following materials:

1. Stainless Steel: 22-gauge (0.0299 inch) thick.
- B. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened.
- C. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.
- D. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- E. Form exposed sheet metal work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
- F. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.

## 2.10 FABRICATION - FLASHINGS

- A. Form sections square true, and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- B. Form sections in maximum lengths. Make allowances for expansion at joints.
- C. Seams are to be standing lock or batten type except corners. Fabricate corners minimum 18-inches mitered, soldered, or welded, and sealed as one piece.
- D. Wipe and wash clean, soldered joints, to remove traces of flux immediately after soldering.
- E. Hem exposed edges of flashings on underside 1/2 inch.
- F. Backpaint flashings with bituminous paint where expected to be in contact with cementitious materials or dissimilar metals.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
2. Verify compliance with requirements for installation tolerances of substrates.
3. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
4. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Installation of products indicates acceptance of surfaces and conditions.

### 3.2 INSTALLATION OF UNDERLAYMENT

A. Sheet Underlayment: Install sheet underlayment, wrinkle free, in accordance with manufacturers' written instructions, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim.

1. Install in shingle fashion to shed water.
2. Lap joints per underlayment manufacturer recommendations or as noted on Drawings, whichever is more stringent.

B. Self-Adhering Sheet Underlayment:

1. Install self-adhering, sheet underlayment; wrinkle free.
2. Prime substrate if recommended by underlayment manufacturer.
3. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures.
4. Apply in shingle fashion to shed water, with end laps of not less than 6-inches (150 mm) staggered 24-inches (600 mm) between courses, or self-adhering sheet underlayment manufacturer recommendations, whichever is more stringent.
5. Overlap side edges not less than 3-1/2 inches (90 mm), or self-adhering sheet underlayment manufacturer recommendations, whichever is more stringent. Roll laps and edges with roller.
6. Roll laps and edges with roller.
7. Cover underlayment within fourteen (14) days of installation.

C. Install slip sheet, wrinkle free, over underlayment before installing sheet metal flashing and trim.

1. Install in shingle fashion to shed water.
2. Lapp joints not less than 4-inches (100 mm).

### 3.3 INSTALLATION, GENERAL

A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.

1. Install fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
  2. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, sealant.
  3. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement.
  4. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
  5. Install continuous cleats, when noted on Drawings, with fasteners spaced not more than 12-inches (300 mm) o.c.
  6. Where continuous cleats are not indicated on Drawings, space individual cleats not more than 12-inches (300 mm) apart. Attach each cleat with at least two (2) fasteners. Bend tabs over fasteners.
  7. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
  8. Do not field cut sheet metal flashing and trim by torch.
  9. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
1. Coat concealed side of uncoated-aluminum and stainless steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
  2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
1. Space movement joints at maximum of 10-feet (3 m) with no joints within 24-inches (600 mm) of corner or intersection.
  2. Form expansion joints of intermeshing hooked flanges, not less than 1-inch (25 mm) deep, filled with sealant concealed within joints.
  3. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
1. Use sealant-filled joints unless otherwise indicated.
    - a. Embed hooked flanges of joint members not less than 1-inch (25 mm) into sealant.
    - b. Form joints to completely conceal sealant.

- c. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way.
    - d. Adjust setting proportionately for installation at higher ambient temperatures.
      - 1) Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
  - 2. Prepare joints and apply sealants to comply with requirements in Division 07, Section "Joint Sealants."
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter.
- 1. Pre-tin edges of sheets with solder to width of 1-1/2 inches (38 mm); however, reduce pre-tinning where pre-tinned surface would show in completed Work.
  - 2. Do not solder metallic-coated steel and aluminum sheet.
  - 3. Do not pre-tin zinc-tin alloy-coated copper.
  - 4. Do not use torches for soldering.
  - 5. Heat surfaces to receive solder, and flow solder into joint.
    - a. Fill joint completely.
    - b. Completely remove flux and spatter from exposed surfaces.
  - 6. Stainless Steel Soldering:
    - a. Tin edges of uncoated sheets, using solder for stainless steel and acid flux.
    - b. Promptly remove acid-flux residue from metal after tinning and soldering.
    - c. Comply with solder manufacturer's recommended methods for cleaning and neutralization.
- H. Rivets: Rivet joints where necessary for strength.

### 3.4 INSTALLATION OF ROOF-DRAINAGE SYSTEM

- A. Install sheet metal roof-drainage items to produce complete roof-drainage system in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Hanging Gutters:
- 1. Join sections with joints sealed with sealant.
  - 2. Provide for thermal expansion.
  - 3. Attach gutters at eave or fascia to firmly anchor them in position.
  - 4. Provide end closures and seal watertight with sealant.
  - 5. Slope to downspouts.
  - 6. Fasten gutter spacers to front and back of gutter.
  - 7. Anchor gutter with straps spaced not more than 24-inches (600 mm) apart to roof deck unless otherwise indicated, and loosely lock to front gutter bead.
  - 8. Install gutter with expansion joints at locations indicated on Drawings, but not exceeding, 50 feet (15.2 m) apart. Install expansion-joint caps.
    - a. Spikes and Ferrules: Not Allowed.

9. Install continuous gutter screens on gutters with noncorrosive fasteners, removable for cleaning gutters.

C. Downspouts:

1. Join sections with 1-1/2-inch (38-mm) telescoping joints.
2. Provide hangers with fasteners designed to hold downspouts securely to walls.
3. Locate hangers at top and bottom and at approximately 60-inches (1500 mm) o.c.
4. Provide elbows at base of downspout to direct water away from building.
5. Connect downspouts to underground drainage system.

### 3.5 INSTALLATION OF ROOF FLASHINGS

- A. Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard.

1. Provide concealed fasteners where possible, and set units true to line, levels, and slopes.
2. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

B. Roof Edge Flashing:

1. Anchor to resist uplift and outward forces in accordance with recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for FM Approvals' listing for required windstorm classification.

- C. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4-inches (100 mm) over base flashing. Install stainless steel draw band and tighten.

- D. Counterflashing: Coordinate installation of counterflashing with installation of base flashing.

1. Insert counterflashing in reglets or receivers and fit tightly to base flashing.
2. Extend counterflashing 4-inches (100 mm) over base flashing.
3. Lap counterflashing joints minimum of 4-inches (100 mm).
4. Secure in waterproof manner by means of snap-in installation and sealant or lead wedges and sealant unless otherwise indicated.

- E. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

### 3.6 INSTALLATION OF WALL FLASHINGS

- A. Install sheet metal wall flashing to intercept and exclude penetrating moisture in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.



- B. Opening Flashings in Frame Construction: Install continuous head, sill, and similar flashings as indicated on Drawings.

### 3.7 INSTALLATION OF MISCELLANEOUS FLASHING

- A. Equipment Support Flashing (when indicated on Drawings for this Project):
  - 1. Coordinate installation of equipment support flashing with installation of roofing and equipment.
  - 2. Weld or seal flashing with elastomeric sealant to equipment support member.

### 3.8 INSTALLATION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerances specified in MCA's "Guide Specification for Residential Metal Roofing".

### 3.9 CLEANING

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.

### 3.10 PROTECTION

- A. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.
- B. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended in writing by sheet metal flashing and trim manufacturer.
- C. Maintain sheet metal flashing and trim in clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures, as determined by Architect.
- E. Provide final protection and maintain conditions that ensure sheet metal flashing and trim work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

**END OF SECTION 076200**

**SECTION 079200 - JOINT SEALANTS****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. Section includes joint sealants for the applications shown or indicated and as required to provide a positive barrier against the passage of moisture and air:
  - 1. Urethane Joint Sealants.
  - 2. Silyl-terminated Polyether Joint Sealants.
  - 3. Latex Joint Sealants.
  - 4. Foam Air-Infiltration Sealant.
  - 5. Joint-Sealant Backing.
- B. Related Requirements:
  - 1. Division 07, Section "Fiber Cement Siding" for sealants in contact with fiber-cement siding materials.
  - 2. Division 07, Section "Sheet metal Flashing and Trim" for sealants in contact with flashing materials.
  - 3. Division 08, Section "Vinyl Sliding Patio Doors" for sealants around sliding patio door frames.

**1.3 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at Project Site with Installer present.

**1.4 ACTION SUBMITTALS**

- A. Product Data: For each joint-sealant product.
- B. Samples: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Joint-Sealant Schedule: Include the following information:
  - 1. Joint-sealant application, joint location, and designation.
  - 2. Joint-sealant manufacturer and product name.
  - 3. Joint-sealant color.

**1.5 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For qualified testing agency.
- B. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- C. Product Test Reports: For each kind of joint sealant, for tests performed by a qualified testing agency.
- D. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
  - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
  - 2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.
- E. Preconstruction Field-Adhesion-Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.
- F. Field-Adhesion-Test Reports: For each sealant application tested.
- G. Sample Warranties: For special warranties.

**1.6 QUALITY ASSURANCE**

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.
  - 1. Testing Agency Qualifications: Qualified according to ASTM C1021 to conduct the testing indicated.
  - 2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.
- C. Single-Source Responsibility: Obtain each type and color of sealant from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.
- D. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

## 1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:
1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
  2. Conduct field tests for each kind of sealant and joint substrate.
  3. Notify Architect seven (7) days in advance of dates and times when test joints will be erected.
  4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
    - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C1193 or Method A, Tail Procedure, in ASTM C1521.
      - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
  5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
  6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sealant products to Project site in original manufacturer's unopened cartons and containers each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.
- B. Store products in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer.

## 1.9 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
  2. When joint substrates are wet.
  3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

**1.10 WARRANTY**

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: Five (5) years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: Twenty (20) years for Silicone Sealants, and five (5) for all other sealants from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
  - 1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
  - 2. Disintegration of joint substrates from causes exceeding design specifications.
  - 3. Mechanical damage caused by individuals, tools, or other outside agents.
  - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

**1.11 CLOSEOUT SUBMITTALS**

- A. Maintenance and Product Data: Provide manufacturer's written recommended maintenance data and product data for each type of sealant including methods for maintaining as well as precautions for use of cleaning materials and methods that could be detrimental to finishes and performance. Include in operation and maintenance manuals.
- B. Warranties: Include warranty in Project warranty manual.
- C. Upon completion of work of this Section, provide Owner with all maintenance materials from work of this Section that are packaged with protective covering for Owner's storage and identified with labels describing contents.

**1.12 MAINTENANCE MATERIAL SUBMITTALS**

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

**PART 2 - PRODUCTS****2.1 JOINT SEALANTS, GENERAL**

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Stain-Test-Response Characteristics: Where sealants are specified to be non-staining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

**2.2 URETHANE JOINT SEALANTS**

- A. Urethane, S, NS, 25, NT: Single-component, nonsag, nontraffic-use, plus 25 percent and minus 25 percent movement capability, urethane joint sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT.
  - 1. Basis-of Design Products: Subject to compliance with requirements, provide one of the following:
    - a. Sikaflex 1A.
    - b. MasterSeal NP1.
  - 2. Color: As selected by Architect from manufacturer's full range.

**2.3 SILYL-TERMINATED POLYETHER (STPE) JOINT SEALANTS**

- A. STPE, S, NS, 50, NT: Single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, silyl-terminated polyether joint sealant; ASTM C920, Type S, Grade NS, Class 50, Use NT.
  - 1. Basis-of-Design Manufacturer: Master Builders Solutions by BASF, The Chemical Company; Web-site: [www.buildingsystems.basf.com](http://www.buildingsystems.basf.com)
  - 2. Basis-of-Design Product: "MasterSeal NP 150" (Formerly Sonolastic 150 VLM), lowmodulus, non-sag, elastomeric, based on hybrid polymer joint sealant.
  - 3. Manufacturer's Product is rated for: Non-traffic-use for vertical or horizontal, interior or exterior use above grade.

**2.4 LATEX JOINT SEALANTS**

- A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C834, Type OP, Grade NF.
  - 1. Basis-of Design Products: Subject to compliance with requirements, provide one of the following:

- a. BASF Building Systems; Sonolac.
  - b. Bostik Findly; Chem-Calk 600.
  - c. Pecora Corporation; AC-20+.
  - d. Tremco Incorporated; Tremflex 834.
2. Joint Substrates:
  - a. All interior applications not specified under other sealants.
3. Color: As selected by Architect from manufacturer's full range.

## 2.5 FOAM AIR-INFILTRATION SEALANT

### A. Acceptable manufacturers:

1. Grace Polycel One.
2. Kwik Foam by DAP.

## 2.6 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Provide sealant backings that are non-staining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C1330, Type B (bicellular material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape as indicated on Drawings and where applicable. Tape to be 3/4-inch in width minimum. Clear tape not allowed.

## 2.7 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
  1. Liquid primer applied to appropriate surfaces as recommended by manufacturer to promote adhesion of specified sealants.
    - a. Color: Clear.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

- C. Cleaning cloths: Clean, soft, absorbent, lint-free cloths.
- D. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  - 1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Installation of products indicates acceptance of surfaces and conditions.

#### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    - a. Concrete.
    - b. Fiber-Cement Materials.
  - 3. Remove laitance and form-release agents from concrete.
  - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
    - a. Metal.
    - b. Glass.



## c. Vinyl.

- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of sealant backings.
  - 2. Do not stretch, twist, puncture, or tear sealant backings.
  - 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
  - 4. Braiding sealant backings to produce a larger backing is strictly prohibited.
  - 5. Dissimilar sealant backings used in single applications are strictly prohibited.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses in each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealant from surfaces adjacent to joints.
  - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

1. Provide concave joint profile per Figure 8A in ASTM C1193 unless otherwise indicated.
2. Provide flush joint profile where indicated according to Figure 8B in ASTM C1193.
3. Provide recessed joint configuration of recess depth and at locations indicated on Drawings according to Figure 8C in ASTM C1193.
  - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

### 3.4 FIELD QUALITY CONTROL

#### A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed and cured sealant joints as follows:
  - a. Perform ten (10) tests for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate.
  - b. Perform one (1) test for each 1000 feet (300 m) of joint length thereafter or one test per each floor per elevation.
2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C1193 or Method A, Tail Procedure, in ASTM C1521.
  - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
3. Inspect tested joints and report on the following:
  - a. Whether sealants filled joint cavities and are free of voids.
  - b. Whether sealant dimensions and configurations comply with specified requirements.
  - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

#### B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

**END OF SECTION 079200**

**SECTION 083216 – VINYL SLIDING PATIO DOORS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes: Tubular extruded poly vinyl chloride (PVC) framed sliding glass doors:
  - 1. Standard sliding patio door.
- B. Related Sections:
  - 1. Division 01, Section “Operation and Maintenance Data” for information be included during Project closeout procedures.
  - 2. Division 07, Section “Weather Barriers” for coordination of weather barrier system installation at exterior wall openings.
  - 3. Division 07, Section “Sheet Metal Flashing and Trim” for coordination of through-wall head flashing material at exterior wall openings.
  - 4. Division 07, Section “Joint Sealants” for coordination of sealants.

**1.1 PREINSTALLATION MEETINGS**

- A. Preinstallation Conference: Conduct conference at the Project Site with Installer present.
  - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 2. Review, discuss, and coordinate the interrelationship of vinyl sliding patio doors with other exterior wall components and adjacent horizontal surfaces. Include provisions for anchoring, flashing, weeping, sealing perimeters, and protecting finishes.
  - 3. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
  - 4. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for vinyl doors.
- B. Shop Drawings: Include door schedule, plans, door elevations, sections, details, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
- C. Product Schedule: Use same designations indicated on Drawings.

### 1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer and Installer.
  - 1. U-Factor and structural rating charts required for AAMA and NFRC labeling requirements.
  - 2. Manufacturer's Installation Instructions.
- B. Sample Warranties: For manufacturer's warranties.
- C. Closeout Submittals: submit following items:
  - 1. Temporary labels marked to identify doors that labels were applied to.
  - 2. Maintenance instructions.
  - 3. Warranties.

### 1.4 QUALITY ASSURANCE

- A. Overall Standards: Comply with AAMA/NWWDA/CSA 101/I.S.2/A440-08, except as otherwise noted herein.
- B. Manufacturer Qualifications: A manufacturer capable of fabricating vinyl doors that meet or exceed performance requirements indicated and of documenting this performance by test reports and calculations.
  - 1. Minimum ten (10) years experience in producing vinyl doors of the type(s) specified.
  - 2. Member AAMA, NFRC, SIGMA.
- C. Installer Qualifications: An installer acceptable to vinyl sliding patio door manufacturer for installation of units required for this Project with not less than five (5) years of successful experience in installation of vinyl window systems and accessories that employs installers and supervisors who are competent in techniques required and certified by the specified manufacturer indicated.
  - 1. Engage an installer who employs workers for this Project who have at least five (5) years of window installation experience in commercial or multifamily buildings.
- D. Certifications for insulated glass doors:
  - 1. NFRC: Doors shall be NFRC certified with temporary U-factor label applied to glass and an NFRC tab added to permanent AAMA frame label.
- E. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Prior to constructing mockups, Contractor shall obtain Architect's approval of Contractor's recommended location and mutually agreed upon time for reviewing the mockups.
  - 2. Prior to constructing mockups, Contractor shall obtain Architect's approval of Contractor's recommended location and mutually agreed upon time for reviewing the mockups.

3. Contractor shall comply and coordinate demonstration of mockups with Division 01, Section "Quality Requirements" for full-size physical assemblies of mockups; Division 07, Section "Weather Barriers"; and Division 07, Section "Sheet Metal Flashing and Trim."
4. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
5. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Follow manufacturer's instructions on label applied to doors.

#### 1.6 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace vinyl doors that fail in materials or workmanship, including costs for parts and labor, within specified warranty period, at no cost to the Owner.

1. Failures include, but are not limited to, the following:

- a. Failure to meet performance requirements.
- b. Structural failures including excessive deflection, water leakage, and air infiltration.
- c. Faulty operation of movable sash and hardware.
- d. Deterioration of materials and finishes beyond normal weathering.
- e. Failure of insulating glass.

2. Warranty Period:

- a. Window: Ten (10) years from date of Substantial Completion.
- b. Glazing Units: Ten (10) years from date of Substantial Completion.
- c. Vinyl Finish: Ten (10) years from date of Substantial Completion.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Maintenance and Product Data: Provide manufacturer's written recommended maintenance data and product data for each type of vinyl sliding patio door assembly and accessory, including methods for maintaining as well as precautions for use of cleaning materials and methods that could be detrimental to finishes and performance. Include in operation and maintenance manuals.
- B. Warranties: Include warranty in Project warranty manual.
- C. Upon completion of work of this Section, provide Owner with all maintenance materials from work of this Section that are packaged with protective covering for Owner's storage and identified with labels describing contents.

#### 1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials and accessories, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain vinyl sliding patio doors from single source from single manufacturer.
- B. Manufacturer: Subject to compliance with requirements, provide products from the following:
  - 1. Basis-of-Design Manufacturer: VPI Windows, [www.vpiwindows.com](http://www.vpiwindows.com), (800) 634-1478, 3420 E. Ferry Avenue, Spokane, Washington
- C. Product: Subject to compliance with requirements, provide windows from the following Product series:
  - 1. Basis-of-Design Product: Bellevue Series.

### 2.2 MATERIALS

- A. Vinyl: Integral color PVC compound containing impact-resistant solid plasticizer, titanium dioxide UV inhibitor, and surface and color stabilizers.
  - 1. Comply with ASTM D 4218 and AAMA/NWWDA/CSA 101/I.S.2/A440-08.

### 2.3 GENERAL PERFORMANCE REQUIREMENTS

- A. Thermal Performance: Comply with NFRC 100.
- B. Air Leakage, Water Resistance, Structural Test: Comply with ANSI/AAMA /NWWDA 101/I.S.2. Test to confirm that window and installation methods comply with all requirements set forth by the state and local jurisdiction with the Project is located.
- C. Forced-Entry Resistance: Comply with CAWM 301-90. D.

### 2.4 SLIDING DOOR TYPES

- A. Standard Sliding Door –1-3/8 inch (35 mm) nail fin setback:
  - 1. Frame: Minimum 4-5/8 inch (128 mm) deep, multi-chambered vinyl profile.
  - 2. Panel Frame: Minimum 2-3/4 by 1-1/2 inch (70 by 38 mm), multi-chambered vinyl profile.

3. Threshold: 4-5/8" wide by 1-1/2 inch high (128 mm by 38 mm high) extruded multi-chambered vinyl profile without nail fin.
4. Sightlines: Equal for operating and fixed panels.
5. Uniform Load: Shall not less than 37 pounds per square foot positive/negative pressure per ASTM E547-00.
6. Hardware:
  - a. Handle and Lock: Inside and outside pull with lever operated 2 point jamb lock.
  - b. Keyed exterior cylinder lock, confirm the lock manufacturer brand with Owner's master keying system being used on Project.
7. Fasteners: Noncorrosive and compatible with door members, trim, hardware, anchors, and other components.
  - a. Exposed Fasteners: Do not use exposed fasteners to greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.
8. Weatherstripping: Fin seal polypropylene pile.

## 2.5 GLAZING

### A. Insulated Glass Units: ASTM E 774, Class A.

1. Glazing Type: PPG Solarban® 60 Low-e glass, insulated.
  - a. Tint: Clear.
  - b. Kind: Fully tempered.
  - c. Filling: Fill space between glass lites with argon.
  - d. Low-E Coating: on second surface.
2. Spacer Bar: Super Spacer® or equivalent warm edge spacer.
3. U-factor: 0.30 or less with argon gas fill.
4. Thickness: 0.750 inch thickness, minimum, with 0.50 inch airspace.

### B. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.

## 2.6 INSECT SCREENS:

- ### A. General: Fabricate insect screens to integrate with sliding patio door frame. Provide screen for each operable portion.
- ### B. Aluminum Frames: Manufacturer's standard aluminum alloy complying with SMA 1004 or SMA 1201. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
1. Tubular Framing Sections and Cross Braces: Roll formed from aluminum sheet.
  2. Finish for Interior Screens: Baked-on organic coating in color selected by Architect from manufacturer's full range.



3. Finish for Exterior Screens: Baked-on organic coating in color selected by Architect from manufacturer's full range.
- C. Glass-Fiber Mesh Fabric: 18-by-14 (1.1-by-1.4-mm) or 18-by-16 (1.0-by-1.1-mm) mesh of PVC-coated, glass-fiber threads; woven and fused to form a fabric mesh resistant to corrosion, shrinkage, stretch, impact damage, and weather deterioration. Comply with ASTM D3656/D3656M.
  1. Mesh Color: As selected by Architect from Manufacturer's full range of colors.

## 2.7 FABRICATION

- A. Fabricate vinyl sliding patio doors in sizes indicated. Include a complete system for installing and anchoring doors.
- B. Glaze vinyl doors in the factory.
- C. Weather strip each operable portion to provide weathertight installation.
- D. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.
  1. Exposed Hardware Color and Finish: As selected by Owner from manufacturer's full range.
- E. Hardware: Mount hardware through double walls of vinyl extrusions or provide corrosion-resistant reinforcement.
- F. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.

## 2.8 FINISH

- A. Frame and Panel Color: White at both exterior and interior faces.

## 2.9 SOURCE QUALITY CONTROL

- A. Inspect doors in accordance with manufacturer's Quality Control Program.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  - 1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.
- C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.
  - 1. Installation of products indicates acceptance of surfaces and conditions.

**3.2 INSTALLATION**

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E2112.
- B. Install doors level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.
- C. Attach door frame shims to perimeter opening to accommodate construction tolerances and other irregularities.
- D. Align door installation with adjacent work. Provide thermal isolation where components penetrate or disrupt building insulation.
- E. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- F. Install opening hardware per manufacturer's recommendations and installation instructions.
- G. Install perimeter sealant and backing materials in accordance with Division 07, Section "Joint Sealants".
- H. Do not remove temporary labels.

- I. Install insect screens on operable panel.

### 3.3 TOLERANCES

- A. Maximum Variation from Level or Plumb: As required by Manufacturer, but not less than 0.06-inches every 3-feet non-cumulative or 0.5-inches per 100-feet, whichever is less and more restrictive.

### 3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
  - 1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.
- B. Testing Services: Testing and inspecting of installed windows shall take place as follows:
  - 1. Testing Methodology: Testing of doors for air infiltration and water resistance shall be performed according to AAMA 502.
  - 2. Air-Infiltration Testing:
    - a. Test Pressure: That required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance class indicated.
    - b. Allowable Air-Leakage Rate: 1.5 times the applicable AAMA/WDMA/CSA 101/I.S.2/A440 rate for product type and performance class rounded down to one decimal place.
  - 3. Water-Resistance Testing:
    - a. Test Pressure: Two-thirds times test pressure required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance grade indicated.
    - b. Allowable Water Infiltration: No water penetration.
  - 4. Testing Extent: Three (3) sliding patio doors of each type as selected by Architect and Owner and a qualified independent testing and inspecting agency. Doors shall be tested after perimeter sealants have cured.
  - 5. Test Reports: Prepared according to AAMA 502.
- C. Remove and replace noncomplying sliding patio doors and retest as specified above.
- D. Windows will be considered defective if they do not pass tests and inspections.
- E. Additional testing and inspecting will be the Contractor's expense and will be performed to determine compliance of replaced or additional work within specified requirements.
- F. Prepare test and inspection reports.

3.5 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust operating panels and hardware for smooth operation and tight fit with weather-stripping.
- B. Clean exposed surfaces immediately after installing doors. Clean glazing at both the exterior and interior sides. Remove excess sealants, glazing materials, dirt, and other substances.
  - 1. Keep protective films and coverings in place until final cleaning.
  - 2. Remove temporary labels and retain for Closeout Submittals.
- C. Protect surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact surfaces, remove contaminants immediately according to manufacturer's written instructions.

**END OF SECTION 083216**

**SECTION 099113 - EXTERIOR PAINTING****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. General: All labor, surface preparation, application, materials, tools and other equipment, services and supervision required to complete all work as indicated on and to the full extent of the Drawings, specifications, and "Exterior Finish Legend".
- B. Section includes surface preparation and the application of paint systems on the following exterior substrates:
  - 1. Concrete.
  - 2. Fiber-cement board.
  - 3. Steel and iron.
  - 4. Galvanized metal.
  - 5. Wood.
- C. Work under this Section shall also include, but not necessarily be limited to, the following:
  - 1. Surface preparation of substrates as required for acceptance of painting, including cleaning, small crack repair, patching, caulking, and making good surfaces and areas to the limits defined under *MPI* preparation requirements.
  - 2. Specific pre-treatments noted herein or specified in the *MPI* Architectural Painting Specification Manual.
  - 3. Priming and painting of structural steel, miscellaneous metal, ornamental metal and primed steel equipment (except where pre-primed with an approved primer under other Sections of work).
  - 4. Priming and back-priming of wood materials as noted herein or specified in the *MPI* Architectural Painting Specification Manual.
  - 5. Painting of all semi-concealed areas (e.g. inside of light troughs and valances, behind grilles, and projecting edges above and below sight lines).
  - 6. Refer to Mechanical, Plumbing, Electrical, and Fire Suppression Design-Build Drawings and Specifications (by others and under separate cover) for painting requirements, if any, for exposed plumbing, heating, fire protection, and electrical elements.
    - a. All louvers and grilles to be painted to match adjacent surfaces.
    - b. Labels: Do not paint over Underwriter's Laboratories, FMG or other code-required labels, or equipment name, identification, performance rating, or nomenclature plates.

7. Provision of safe and adequate ventilation as required over and above temporary ventilation supplied by others, where toxic and/or volatile / flammable materials are being used.
  8. Refer to and coordinate with Drawings, specifications and “Interior Finish Legend” for location of finishes required, and include all touch-ups and field painting necessary to complete work shown, scheduled or specified.
- D. NOTE: This specification Section is intended as a generic performance specification. Refer to “Exterior Finish Legend” on the Drawings and the approved submittal (which shall take precedence) for the following:
1. Areas to receive product(s) specified in this specification Section.
  2. Product materials.
  3. Manufacturer.
  4. Color selections.
  5. Gloss levels.
- E. Related Requirements:
1. Division 06, Section “Exterior Finish Carpentry” for standing and running wood trim surface preparation, priming, and coating(s).
  2. Division 07, Section “Fiber-Cement Siding” for exterior cladding surface preparation, priming, and coating(s).
  3. Division 07, Section “Sheet Metal Flashing and Trim” for specialty finishes.
  4. Division 07, Section “Joint Sealants”.

### 1.3 REFERENCES

- A. The latest edition of the following reference standards shall govern all painting work:
1. Architectural Painting Specification Manual by the Master Painters Institute (MPI), including Identifiers, Evaluation, Systems, Preparation and Approved Product List (hereafter referred to as the MPI Painting Manual) as issued by the local MPI Accredited Quality Assurance Association having jurisdiction.
  2. Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).

### 1.4 DEFINITIONS

- A. “Paint” includes coating systems materials, primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
- B. Master Painters Institute (MPI): Definitions of MPI Gloss Levels below are from “MPI Architectural Painting Specification Manual” (hereafter, “MPI Manual”).
- C. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523. MPI Gloss Standard Description: A traditional “matte” finish – flat.

- D. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523. MPI Gloss Standard Description: A traditional “egg-shell” finish.
- E. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523. MPI Gloss Standard Description: A “satin-like” finish.
- F. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523. MPI Gloss Standard Description: A traditional “semi-gloss” finish.
- G. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523. MPI Gloss Standard Description: A traditional “gloss” finish.
- H. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523. MPI Gloss Standard Description: A traditional “high gloss” finish.

## 1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site with installer present.

## 1.6 SUBMITTALS, GENERAL

- A. All submittals shall be in accordance with the requirements of Division 01, Section “Submittal Procedures”.
  - 1. Do not proceed with final painting until samples and mock-ups, when required, are approved.

## 1.7 ACTION SUBMITTALS

- A. Product Data: For each specific type of product being provided and installed for this Project. Include preparation requirements and application instructions.
  - 1. Include printout of current “MPI Approved Products List” for each product category specified, with the proposed product highlighted.
  - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
  - 1. Submit Samples on rigid backing, 8-inches (200 mm) square.
  - 2. Apply coats on Samples in steps to show each coat required for system.
  - 3. Label each coat of each Sample.
  - 4. Label each Sample for location and application area.
- D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1. Printout of current “MPI Approved Products List” for each product category being provided, with the proposed product highlighted.
  2. VOC content of each schedule product.
- E. Painting Schedule: In a form similar to the schedule indicated outlining the type of paint to be used for each category, application, and color. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.

#### 1.8 INFORMATIONAL SUBMITTALS

- A. Certifications: Manufacturer's statement that paint materials conform to current regulations relating to lead content and air pollution emission requirements.
- B. Submit Material Safety Data Sheets (MSDS) prior to commencement of work and for posting at job site as required.
- C. When or if requested by the General Contractor, Architect or Owner, submit work schedule for various stages of work when painting occupied areas for the Architect's review and Owner's approval.
- D. Sample Warranty: For Painting Contractor (Installer) warranty. Upon final completion of the work, a signed and dated warranty shall be included in the Project's warranty manual.

#### 1.9 WARRANTY

- A. The Painting Contractor (Installer) shall provide a signed and dated written warranty that will guarantee to the Owner to appropriately repaint work provided due to product and/or workmanship failure, at no added cost to the Owner, for a period of:
  1. Two (2) years from date of Substantial Completion.

#### 1.10 CLOSEOUT SUBMITTALS

- A. Maintenance and Product Data: Provide manufacturer's written recommended maintenance data and product data for each type of paint or stain indicated, including methods for maintaining as well as precautions for use of cleaning materials and methods that could be detrimental to finishes and performance. Include in operation and maintenance manuals.
- B. Warranties: Include warranty in Project warranty manual.
- C. Upon completion of work of this Section, provide Owner with all maintenance materials from work of this Section that are packaged with protective covering for Owner's storage and identified with labels describing contents.



**1.11 MAINTENANCE MATERIAL SUBMITTALS**

- A. At project completion, furnish extra materials (including full unopened cans of surplus paint), from the same product run (batch mix), that match products installed and that are packaged with protective covering for storage and identified for Owner's later use in maintenance that are properly labeled describing contents. Store where indicated by Owner.
  - 1. Paint: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

**1.12 QUALITY ASSURANCE**

- A. Installer Qualifications: An entity with not less than five (5) years of successful experience in installation of specified product(s) that employs installers and supervisors who are competent in techniques required by manufacturer.
  - 1. Engage an installer who employs workers for this Project who are trained or certified by specified paint or stain manufacturer for installation techniques required.
- B. Single-Source Responsibility: Obtain each type, color and finish of specified products and accessories from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.
- C. Coordination of Work: Review Sections in which primers are provided to ensure compatibility of the total systems for various substrates.
- D. Material Quality: Provide the manufacturer's best quality trade sale type paint material of the various types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable. Proprietary names used to designate colors or materials are not intended to imply that products named are required or to exclude of equal products of other manufacturers.
- E. All materials, preparation and workmanship shall conform to requirements of the latest edition of the Architectural Painting Specification Manual by the Master Painters Institute (*MPI*) (hereafter referred to as the *MPI* Painting Manual) as issued by the local *MPI* Accredited Quality Assurance Association having jurisdiction.
  - 1. Unless otherwise specified herein, all painting work shall be in accordance with *MPI* premium Grade finish requirements.
- F. All paint manufacturers and products used shall be as listed under the Approved Product List section of the *MPI* Painting Manual, unless otherwise indicated or approved.
  - 1. All such material shall be from a single manufacturer for each system used.
  - 2. Other materials such as linseed oil, shellac, thinners, solvents, etc. shall be the highest quality product and shall be compatible with paint materials being used as required.
  - 3. All materials used shall be lead and mercury free and shall have low VOC content where possible.
  - 4. Where required, use only materials having a minimum *MPI* "Environmentally Friendly" [E1] [E2] [E3] rating based on VOC (EPA Method 24) content levels.

- G. Where “special” painting, coating or decorating system applications (i.e. non-*MPI* listed products or systems) are to be used, the paint or coating manufacturer shall provide as part of this work, certification of all surfaces and conditions for specific paint or coating system application as well as on site supervision, inspection and approval of their paint or coating system application as required at no additional cost to the Owner.
- H. The Painting Contractor (Installer) shall receive written confirmation of the specific surface preparation procedures and primers used for all fabricated steel items from the fabricator / supplier to ascertain appropriate and manufacturer compatible finish coat materials to be used before painting any such work.
- I. All paint materials shall have good flowing and brushing properties and shall dry or cure free of blemishes, sags, air entrapment, etc.
- J. Unless otherwise specified herein or pre-approved, all paint shall be ready-mixed and pre-tinted. Re-mix all paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and color and gloss uniformity.
- K. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Architect and Owner will select surfaces to represent surfaces and conditions for application of each paint system.
    - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
    - b. Other Items: Architect and Owner will designate items or areas required.
  - 2. Final approval of color selections will be based on mockups.
    - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect and Owner at no added cost to Owner.
  - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect and Owner specifically approves such deviations in writing.
  - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.13 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all painting materials in sealed, original labeled containers bearing manufacturer’s name, brand name, type of paint or coating and color designation, standard compliance, materials content as well as mixing and/or reducing and manufacturer’s instructions and application requirements.
  - 1. Product Name or Title of Material.
  - 2. Product Description (Generic Classification or Binder Type).
  - 3. Manufacturer's Stock Number and Date of Manufacture.
  - 4. Contents by Volume, for Pigment and Vehicle Constituents.

5. Thinning Instructions.
6. Application Instructions.
7. Color Name and Number.
8. VOC Content.

- B. Approved materials without the above information will NOT be allowed on the Project Site.
- C. Store all paint materials in original labeled containers in a secure (lockable), dry, heated and well ventilated single designated area meeting the minimum requirements of both paint manufacturer and authorities having jurisdiction and at a minimum ambient temperature of 45 deg F (7 deg C). Only material used on this project to be stored on site.
1. Maintain containers in clean condition, free of foreign materials and residue.
  2. Remove rags and waste from storage areas daily.
  3. Take all necessary precautionary and safety measures to prevent fire hazards and spontaneous combustion and to protect the environment from hazard spills. Materials that constitute a fire hazard (paints, solvents, drop clothes, etc.) shall be stored in suitable closed and rated containers and removed from the site on a daily basis.
- D. Where toxic and/or volatile / explosive / flammable materials are being used, provide adequate fireproof storage lockers and take all necessary precautions and post adequate warnings (e.g. no smoking) as required.
- E. Comply with requirements of Authorities Having Jurisdiction (AHJ), in regard to the use, handling, storage and disposal of hazardous materials.

#### 1.14 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
- C. Conduct all moisture tests using a properly calibrated electronic Moisture Meter.

#### 1.15 WASTE MANAGEMENT AND DISPOSAL

- A. Paint, stain and wood preservative finishes and related materials (thinners, solvents, etc.) are regarded as hazardous products and are subject to regulations for disposal. Obtain information on these controls from applicable State and Local government Authorities Having Jurisdiction (AHJ).
- B. All waste materials shall be separated and recycled. Where paint recycling is available, collect waste paint by type and provide for delivery to recycling or collection facility. Materials that cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.
- C. Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.

- D. To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into the ground the following procedures shall be strictly adhered to:
1. Retain cleaning water for water-based materials to allow sediments to be filtered out. In no case shall equipment be cleaned using free draining water.
  2. Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.
  3. Return solvent and oil soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.
  4. Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.
  5. Empty paint cans are to be dry prior to disposal or recycling (where available).
  6. Close and seal tightly partly used cans of materials including sealant and adhesive containers and store protected in well ventilated fire-safe area at moderate temperature.
- E. Set aside and protect surplus and uncontaminated finish materials not required by the Owner and deliver or arrange collection for verifiable re-use or re-manufacturing.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, the available manufacturers' offering products that may be incorporated into the Work, except where noted otherwise, all finishing materials, thinners, etc., shall be the best quality, first line materials as manufactured by one of the following manufacturers:
1. Sherwin-Williams Company (The).
  2. Benjamin Moore & Co.
  3. Glidden Professional.
  4. Miller Paint.
  5. Rodda Paint. Co.
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Exterior Painting Schedule for the paint category indicated.
1. Basis-of-Design:
    - a. Manufacturer: Sherwin-Williams Company (The).
    - b. Product: Sherwin Williams Exterior Latex Primer at all surfaces to receive paint.
    - c. Product: Sherwin Williams SuperPaint, Exterior Latex Satin at all exterior locations, except exterior metal doors.
    - d. Product: Sherwin Williams Pro Industrial DTM Acrylic, Semi-Gloss paint at all exterior metal door and door frame surfaces.
  2. Acceptable manufacturers with an equal or better product from one of the following:
    - a. Benjamin Moore & Co.

- b. Glidden Professional.
- c. Miller Paint.
- d. Rodda Paint. Co.

## 2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. VOC Content: When the Project uses the following materials, those materials shall comply with the field applications, paints and coatings, and shall not exceed the VOC content limits of Authorities Having Jurisdiction (AHJ) and the following maximum VOC content limits:
  - 1. Flat Paints and Coatings: 50 g/L.
  - 2. Nonflat Paints and Coatings: 100 g/L.
  - 3. Dry-Fog Coatings: 150 g/L.
  - 4. Industrial Maintenance Coatings: 250 g/L.
  - 5. Pretreatment Wash Primers: 420 g/L.
  - 6. Primers, Sealers, and Undercoaters: 100 g/L.
  - 7. Recycled Coatings: 250 g/L.
  - 8. Rust-Preventive Coatings: 250 g/L.
- C. Material Compatibility:
  - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- D. Colors: As indicated on "Exterior Finish Legend" on Drawings.

## 2.3 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
  - 1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
  - 2. Testing agency will perform tests for compliance with product requirements.
  - 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. DO NOT commence the Work of this Section until the exterior paint submittal and mock-ups, specific locations, and colors have been reviewed and approved by the Architect.
- B. Prior to commencement of the Work of this Section, thoroughly examine (and test as required) all substrates and conditions scheduled to be painted or receive coatings, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work. Notify Owner and Architect, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
  - 1. Failure to call attention to defects or imperfections will be construed as acceptance and approval of substrate. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.
- C. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
  - 1. Concrete: 12 percent.
  - 2. Fiber-Cement Board: 12 percent.
  - 3. Masonry (Clay and CMUs): 12 percent.
  - 4. Wood: 15 percent.
  - 5. Gypsum Board: 12 percent.
- D. Exterior Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- E. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- F. Proceed with coating application only after unsatisfactory conditions have been corrected.
  - 1. Application of coating indicates acceptance of surfaces and conditions.

**3.2 PREPARATION**

- A. Comply with manufacturer's written instructions and recommendations for preparation and workmanship in "*MPI Architectural Painting Specification Manual*" applicable to substrates and paint systems indicated.
- B. Remove and securely store all hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  - 1. After completing painting operations, carefully clean and replace all hardware, covers, plates, and similar items, using workers skilled in the trades involved to reinstall items

that were removed. Remove surface-applied protection if any. Do not use solvent or reactive cleaning agents on items that will mar or remove finishes.

- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
  - 1. Remove incompatible primers and re-prime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Steel and Iron Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
  - 1. SSPC-SP 3: Power Tool Cleaning.
- E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- G. Wood Substrates:
  - 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
  - 2. Sand surfaces that will be exposed to view, and dust off.
  - 3. Prime edges, ends, faces, undersides, and backsides of wood.
  - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
- H. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

### 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
  - 1. Use applicators and techniques suited for paint and substrate indicated.
  - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
  - 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
  - 4. Paint entire exposed surface of window frames and sashes.
  - 5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
  - 6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Do not paint unless substrates are acceptable and/or until all environmental conditions (heating, ventilation, lighting and completion of other sub-trade work) are acceptable for applications of products.
- E. Apply paint and coatings within an appropriate time frame after cleaning when environmental conditions encourage flash-rusting, rusting, contamination or the manufacturer's paint specifications require earlier applications.
- F. Apply paint only to dry, clean, properly cured and adequately prepared surfaces in areas where dust is no longer generated by construction activities such that airborne particles will not affect the quality of finished surfaces.
- G. Painting coats specified are intended to cover surfaces satisfactorily when applied at proper consistency and in accordance with manufacturer's recommendations.
- H. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- I. Apply one (1) coat of specified primer at all exterior wall surfaces to receive paint.
- J. Apply two (2) coats of specified top coat paint at all exterior wall surfaces to receive paint.
- K. Apply two (2) coats of specified top coat paint at all exterior metal guard rails, metal doors and frames.
- L. Protect all adjacent surfaces and areas, including rating and instruction labels on doors, frames, equipment, piping, etc., from painting operations and damage with drop cloths, shields, masking, templates, or other suitable protective means and make good any damage caused by fail to provide protection.
- M. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work: (NOTE: Prior to Bid and actual painting, confirm with Owner and with the appropriate mechanical, plumbing, electrical design professionals, in addition to fire suppression delegated design professionals, the applicability of and extent of the below listed items.)
  - 1. Paint the following work where exposed to view:
    - a. Equipment, including panelboards and switch gear.
    - b. Uninsulated metal piping.
    - c. Uninsulated plastic piping.
    - d. Pipe hangers and supports.
    - e. Metal conduit.



- f. Plastic conduit.
- g. Other minor items as may be directed by Owner.

### 3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
  - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
  - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

### 3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.6 EXTERIOR PAINTING SCHEDULE

- A. All Exterior Wall Surfaces to receive paint:
  - 1. Sherwin Williams Exterior Latex Primer (basis-of-design).
    - a. Apply one (1) prime coat at all exterior wall surfaces to receive paint.
- B. All Exterior Wall Surfaces to receive paint:
  - 1. Sherwin Williams SuperPaint (basis-of-design).
    - a. Apply two (2) coats (satin) at all exterior wall surfaces to receive paint.
- C. All Exterior Metal Doors, Exterior Doors, Metal Frames, and other exterior metal surfaces to receive paint:
  - 1. Sherwin Williams SuperPaint (basis-of-design).
    - a. Apply two (2) coats (satin) at all exterior metal doors, metal frames, doors, door frames, and other exterior metal surfaces to receive paint.

**END OF SECTION 099113**