

# **VIDEO SURVEILLANCE UPGRADES - 2021**

## **PROJECT MANUAL**

07/28/2021

### **OWNER**

**PORTAGE PUBLIC SCHOOLS**

PORTAGE, MI 49002

### **PROJECT NUMBER**

**Architect's Project No. 21150.00**

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**SECTION 00 1113 - ADVERTISEMENT FOR BIDS**

1.1 FROM:

A. THE OWNER:

1. Portage Public Schools
2. 8107 Mustang Drive
3. Portage, MI 49002

B. AND THE ARCHITECT:

1. Tower Pinkster Titus Associates
2. 242 East Kalamazoo Avenue, Suite 100
3. Kalamazoo, MI 49007-5828

1.2 TO: POTENTIAL BIDDERS

- A. Bids will be accepted from bidders, under seal to Owner, at 2:00 p.m. on August 12, 2021. Bids received after the stated date and time will not be considered or accepted. Bids will be received for the following project:

1. VIDEO SURVEILLANCE UPGRADES – 2021

- B. Bids shall be sealed with the project name in BOLD on the outermost envelope/package.

- C. Bids will be received, publicly opened and read at the Portage Public Schools Administration Building located at 8107 Mustang Drive, Portage, Michigan 49002. Bidders are welcome to attend the bid opening, but attendance is not mandatory. Bids shall be submitted to:

1. Portage Public Schools Administration
2. 8107 Mustang Drive
3. Portage, MI 49002
4. Attn: Amanda Howard – Purchasing

- D. RFP Specifications, Project Drawings, Addenda (if any), bid tabulations and award information will be posted on the Portage Public Schools website: [www.portageps.org](http://www.portageps.org) under the Bids & Proposals link.

- E. Project Description: Provide and install new video surveillance cameras in PPS District buildings. Some camera locations are simple replacements at original location, others are replacements at nearby (near original camera location) locations, and some are new cameras at new locations. Note: data cabling to support new camera locations is not within the scope of this project. Any required new data cabling is limited and will be contracted by Portage Public Schools separately.

- F. Bid Documents will be available July 28, 2021. Electronic PDF Copies can be obtained by request. Contact the office of the Architect. Attn: Chris Hamilton, [chamilton@towerpinkster.com](mailto:chamilton@towerpinkster.com). All communications regarding this RFP shall be directed to Chris Hamilton at the email address listed above.

- G. As required by State Law, all bids shall be accompanied by the following disclosure statements: Familial Disclosure Statement and Iran Economic Sanctions Act Affidavit. As required by State Law, all bids shall

be accompanied with bid security in the amount of 5% of the bid amount. Bid security may be in the form of a bid bond, certified check, cashier's check or money order.

- H. There will be a pre-bid, in-person meeting beginning at 2:00 p.m. on August 05, 2021 at the Portage Public Schools Administration Building, 8107 Mustang Drive, Portage, MI 49002. The purpose is to provide a general overview of the project and consider questions posed by bidders. Attendance of the pre-bid meeting is not mandatory, but is highly encouraged.
- I. No bids may be withdrawn for a period of 30 days after submission.
- J. The Owner reserves the right to accept or reject any or all bids, alternates, or proposals, and to accept those bids, alternates, or proposals that, in their judgment, serve the District's best interests.

**END OF DOCUMENT 00 1113**

## SECTION 00 2113 - INSTRUCTIONS TO BIDDERS

### 1.1 FORM OF INSTRUCTIONS TO BIDDERS

- A. See AIA Document A701 (1997 Edition), Instructions to Bidders, issued by the American Institute of Architects. It is an integral part of the Bidding Documents but is not bound in the Project Manual. Refer to this document for pertinent information. Failure to consult this document shall not relieve the Bidder of its obligations therein. Copies of this document may be viewed at the office of the Architect, and may be purchased at the following location:
- a. AIA Michigan
  - b. 553 East Jefferson Avenue
  - c. Detroit, MI 48226
  - d. (313) 965-4100
- B. The instructions in this document amend or supplement the Instructions to Bidders and other provisions of the Bidding and Contract Documents. Where any Article of the Instructions to Bidders is modified, or any paragraph, sub-paragraph or clause thereof is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, sub-paragraph, or clause shall remain in effect.

### 1.2 ARTICLE 1 – DEFINITIONS

- A. Make the following revisions to paragraph 1.1:
1. 1.1 In the first and second sentences, replace the phrase "Bidding Requirements" with the phrase "Procurement Requirements." In the second sentence replace the words "and contract forms" with the word "forms." In the third sentence, after the words replace the words "Conditions of the Contract" with the words "contracting forms, Conditions of the Contract."

### 1.3 ARTICLE 2 – BIDDER'S REPRESENTATIONS

- A. Add the following clause 2.1.3.1 to subparagraph 2.1.3:
- a. .1 The Bidder has investigated all required fees, permits, and regulatory requirements of authorities having jurisdiction and has properly included in the submitted bid the cost of such fees, permits, and requirements not otherwise indicated as provided by Owner.

### 1.4 ARTICLE 3 – BIDDING DOCUMENTS

#### 1. 3.3 SUBSTITUTIONS

- B. Add the following Sub-paragraph 3.3.5:
1. 3.3.5 Voluntary alternates will not be accepted on this project due to Owner standardization on the hardware specified in the project drawings.

### 1.5 ARTICLE 4 – BIDDING PROCEDURE

#### 1. 4.1 PREPARATION OF BIDS

- B. Add the following clause 4.1.1.1 to subparagraph 4.1.1:
  - a. .1 Submit three fully executed copies of the bid, including all required attachments.
  
- C. Add the following Subparagraph 4.1.8:
  - 1. 4.1.8 The Bid shall include unit prices when called for by the Bid Forms. Owner may elect to consider unit prices in the determination of award. Unit prices will be incorporated into the Contract.
  
  - 2. 4.2 BID SECURITY
  
- D. Omit the last sentence of Subparagraph 4.2.1.
  
- E. Add the following Subparagraph 4.2.4:
  - 1. 4.2.4 Bid security equal to 5 percent of the bid shall be provided in the form of a surety bond, certified check, or cashier's check made payable to the Owner.
  
  - 2.
  
  - 3. 4.4 MODIFICATION OR WITHDRAWAL OF BID
  
  - 4. Add the following clauses to Subparagraph 4.4.2:
    - a. .1 Such modifications to or withdrawal of a bid may only be made by persons authorized to act on behalf of the Bidder. Authorized persons are those so identified in the Bidder's corporate bylaws, specifically empowered by the Bidder's charter or similar legally binding document acceptable to Owner, or by a power of attorney, signed and dated, describing the scope and limitations of the power of attorney. Make such documentation available to Owner at the time of seeking modifications or withdrawal of the Bid.
  
    - b. .2 Owner will consider modifications to a bid written on the sealed bid envelope by authorized persons when such modifications comply with the following: the modification is indicated by a percent or stated amount to be added to or deducted from the Bid; the amount of the Bid itself is not made known by the modification; a signature of the authorized person, along with the time and date of the modification, accompanies the modification. Completion of an unsealed bid form, awaiting final figures from the Bidder, does not require power of attorney due to the evidenced authorization of the Bidder implied by the circumstance of the completion and delivery of the Bid.

1.6 ARTICLE 5 – CONSIDERATION OF BIDS

- A. Add the following subparagraph 5.2.1 to paragraph 5.1:
  - 1. 5.2.1 Owner reserves the right to reject a bid based on Owner's and Architect's evaluation of qualification information submitted following opening of bids. Owner's evaluation of the Bidder's qualifications will include: status of licensure and record of compliance with licensing requirements, record of quality of completed work, record of Project completion and ability to complete, record of financial management including financial resources available to complete Project and record of timely payment of obligations, record of Project site management including compliance with requirements of authorities having jurisdiction, record of and number of current claims and disputes and the status of their resolution, and qualifications of the Bidder's proposed Project staff and proposed subcontractors.

- 1.7 ARTICLE 6 – POST BID INFORMATION
  - 1. 6.2 OWNER'S FINANCIAL CAPABILITY
  - B. Omit Paragraph 6.2.
    - 1. 6.3 SUBMITTALS
  - C. Replace Subparagraph 6.3.1 with the following:
    - 1. 6.3.1 All bidders whose bid is under consideration shall submit, within 48 hours of bid opening, a Schedule of Values listing all subcontractors proposed for the Work and the following:
      - a. .1 A designation of the Work to be performed with the Bidder's own forces.
- 1.8 .2 Names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work.
- 1.9 ARTICLE 7 – PERFORMANCE BOND AND PAYMENT BOND
  - 1. 7.1 BOND REQUIREMENTS
  - B. Add the following Subparagraph 7.1.4:
    - 1. 7.1.4 Performance and Payment Bonds in the amount of 100 percent of the Contract amount will be required.
  - C. Add the following Article 9 to the Instructions to Bidders:
- 1.10 ARTICLE 9 – ADDITIONAL ITEMS
  - 1. 9.1 EXECUTION OF THE CONTRACT
  - 2. 9.1.1 Subsequent to the Notice of Intent to Award, and within 10 days after the prescribed Form of Agreement is presented to the Awardee for signature to the Awardee, the Awardee shall execute and deliver the Agreement to Owner through Architect, in such number of counterparts as Owner may require.
  - 3. 9.1.2 Owner may deem as a default the failure of the Awardee to execute the Contract and to supply the required bonds when the Agreement is presented for signature within the period of time allowed.
  - 4. 9.1.3 Unless otherwise indicated in the Procurement and Contracting Documents or the executed Agreement, the date of commencement of the Work shall be the date of the executed Agreement.
  - 5. 9.2 PRE-BID MEETINGS
  - 6. 9.2.1 A pre-bid meeting will be conducted per Section 00 1113 ADVERTISEMENT FOR BIDS detail. This meeting is not mandatory, however prospective bidders are encouraged to attend.

**END OF DOCUMENT 00 2113**

**SECTION 00 4100 - BID FORMS**

1.1 THE PROJECT AND THE PARTIES:

- A. TO: Portage Public Schools (the Owner)
  - 1. 8107 Mustang Drive
  - 2. Portage, MI Michigan 49002
- B. FOR: VIDEO SURVEILLANCE UPGRADES - 2021
- C. DATE: \_\_\_\_\_ (Bidder to enter date)
- D. SUBMITTED BY: (Bidder to enter name and address)
  - 1. Bidders Full Name \_\_\_\_\_
  - 2. Address \_\_\_\_\_
  - 3. City, State, and Zip \_\_\_\_\_
  - 4. Phone Number \_\_\_\_\_
  - 5. Email address \_\_\_\_\_

1.2 OFFER

- A. Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Tower Pinkster Titus Associates for the above-mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:
  - 1. \_\_\_\_\_ Dollars (\$\_\_\_\_\_)
  - 2. in lawful money of the United States of America.
  - 3. We have included the required security as required by the Instruction to Bidders.
  - 4. All applicable taxes are included in the Bid Sum.
  - 5. 100% Performance and Payment Bond is included in the Bid Sum.
  - 6. All applicable permit costs are included in the Bid Sum.
  - 7. All Addenda information has been considered and any applicable costs are included in the Bid Sum
  - 8. Fully executed Document 00 4520 – Familial Statement of Disclosure is attached.
  - 9. Fully executed Document 00 4546 – Governmental Certifications form is attached

1.3 EXCEPTIONS

- A. List any exceptions taken to the Project Manual, including any information in Specification Documents, subsequent pre-bid Addenda, and project drawings. List exceptions below (attach additional exception sheet if more space is required):
  - 1. \_\_\_\_\_
  - 2. \_\_\_\_\_
  - 3. \_\_\_\_\_
  - 4. \_\_\_\_\_
  - 5. \_\_\_\_\_



1.4 BUILDING-LEVEL PRICING DETAIL

- A. The sum of all building-level totals shall equate to the total OFFER listed in 1.2A(1) above.
- B. List the total bid price for each building. Note: the first four buildings contain camera replacements at existing locations, camera replacement/relocation(s) or limited quantities of new camera locations. Floorplan drawings of these buildings are included in the Project Drawings. The remaining buildings have “one-for-one” camera replacements at existing locations (locations shall be coordinated with Owner/Architect post-award). **Refer to the camera schedule(s) located in the project drawing detail sheets.**
- C. List the total “turn-key” bid price, including all parts, labor and performance bond cost, for each building (reminder: totals of the building “turn-key” prices shall equate exactly to the total OFFER listed in 1.2A(1) on page 2 of Section 00 4100 ).
1. Portage Central High School (locations provided on building floor plans. Also refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” Portage Central High School price \$ \_\_\_\_\_
  2. Portage Northern High School (locations provided on building floor plans. Also refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” Portage Northern High School price \$ \_\_\_\_\_
  3. West Middle School (locations provided on building floor plans. Also refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” West Middle School price \$ \_\_\_\_\_
  4. Transportation Building (locations provided on building floor plans. Also refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” Transportation Building price \$ \_\_\_\_\_
  5. Amberly Elementary (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” Amberly Elementary price \$ \_\_\_\_\_
  6. Angling Road Elementary (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” Angling Road Elementary price \$ \_\_\_\_\_
  7. Central Elementary (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” Central Elementary price \$ \_\_\_\_\_
  8. Haverhill Elementary (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” Haverhill Elementary price \$ \_\_\_\_\_
  9. Lake Center Elementary (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
    - a. Total “turn-key” Lake Center Elementary price \$ \_\_\_\_\_

- 10. Moorsbridge Elementary (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
  - a. Total "turn-key" Moorsbridge price \$ \_\_\_\_\_
  
- 11. Portage Community Education Center - PCEC (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
  - a. Total "turn-key" PCEC price \$ \_\_\_\_\_
  
- 12. 12<sup>th</sup> Street Elementary (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
  - a. Total "turn-key" 12<sup>th</sup> Street Elementary price \$ \_\_\_\_\_
  
- 13. Woodland Elementary (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
  - a. Total "turn-key" Woodland Elementary price \$ \_\_\_\_\_
  
- 14. Administration Building (Locations NOT PROVIDED, refer to camera schedule located in the detail drawing sheets)
  - a. Total "turn-key" Administration Building price \$ \_\_\_\_\_

1.5 UNIT ADD PRICING

- A. Provide a unit price to add a camera, mount or labor. This pricing shall be utilized throughout the course of the project for potential camera additions.
  - a. C1 camera type (Avigilon 32C-H4A-4MH-360) \$ \_\_\_\_\_
  - b. C2 camera type (Avigilon 24C-H4A-3MH-270) \$ \_\_\_\_\_
  - c. C3 camera type (Avigilon 32C-H4A-4MH-180) \$ \_\_\_\_\_
  - d. C4 camera type (Avigilon 10C-H5DH-D1-IR) \$ \_\_\_\_\_
  - e. C5 camera type (Avigilon 8.0C-H5A-D1) \$ \_\_\_\_\_
  - f. C6 camera type (Avigilon 8.0C-H5A-DO1) \$ \_\_\_\_\_
  - g. C7 camera type (Avigilon 4.0C-H5A-D1) \$ \_\_\_\_\_
  - h. C8 camera type (Avigilon 12.0W-H5A-FE-DC1) \$ \_\_\_\_\_
  - i. A1 mount type (Avigilon H4AMH-AD-PEND1) \$ \_\_\_\_\_
  - j. A2 mount type (Avigilon H4AMH-DO-COVR1) \$ \_\_\_\_\_
  - k. A3 mount type (Avigilon IRPTZ-MNT-WALL1) \$ \_\_\_\_\_
  - l. A4 mount type (Avigilon H4-MT-CRNR1) \$ \_\_\_\_\_

1.6 OUT-OF-SCOPE LABOR RATE COMMITMENT

Bidder shall provide commitment for labor rates that would be quoted for out-of-scope work initiated through change-order:

Hourly on-site labor rate \$ \_\_\_\_\_

Hourly travel rate \$ \_\_\_\_\_

1.7 ACCEPTANCE

- A. This offer shall be open to acceptance and is irrevocable for thirty days from the bid closing date. If this bid is accepted by the Owner within the time period stated above, we will:
  - 1. Execute the Agreement within ten days of receipt of Notice of Award.
  - 2. Commence work within seven days after written Notice to Proceed of this bid.
- B. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.
- C. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.8 CONTRACT TIME

- A. If this Bid is accepted, we will complete the Work by November 01, 2021.

1.9 ADDENDA

- A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
  - 1. \_\_\_\_\_ (List addendum #'s/dates)

1.10 BID FORM SUPPLEMENTS

- A. Bidders shall supply a line-item quote sheet(s) as part of their bid response. The sheet(s) shall indicate quantity, manufacturer, part number, product description, unit price and extended price for each camera, mount, accessory included in their bid. The sheet(s) shall be organized (broken down) by school building. The sheet(s) shall also include a separate, single line item for the total installation labor for the building and a single line item for the performance bond amount for the building. The total dollar amount of each building shall match the dollar amounts listed in Section 1.4 of the Bid Forms.

B. We agree to submit the following Supplements to Bid Forms if requested by the Architect within 48 hours after submission of this bid for additional bid information:

1. Schedule of Values: Include the names of all Subcontractors and the portions of the Work they will perform.

1.11 BID FORM SIGNATURE(S)

A. The Corporate Seal of

1. ....
2. (Bidder - print the full name of your firm)

B. was hereunto affixed in the presence of:

1. ....
2. (Authorized signing officer, Title)

C. (Seal)

1. ....
2. (Authorized signing officer, Title)

**END OF DOCUMENT 00 4100**

**SECTION 00 4520 – FAMILIAL STATEMENT OF DISCLOSURE**

1.1 THE PROJECT AND THE PARTIES:

- A. TO: Portage Public Schools
- B. SUBMITTED BY: (Bidder to enter name)
  - 1. Bidder's Full Name \_\_\_\_\_

I/We the undersigned, acknowledge the details stated in Section 004520 – “Statement of Disclosure”, regarding familial relationship (or lack of) that exists between the Owner or any employee of the bidder and any member of the Portage Public Schools Board of Education or the Superintendent of the School District.

- We have prior familial knowledge of parties involved. (Attach clarification.)
- We have no prior familial knowledge of parties involved.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Notary Public  
\_\_\_\_\_County, Michigan  
My Commission Expires: \_\_\_\_\_

**END OF SECTION 00 4520**

**SECTION 00 4546 - GOVERNMENTAL CERTIFICATIONS**

1.1 THE PROJECT AND THE PARTIES:

A. TO: Portage Public Schools

1.2 CERTIFICATION OF COMPLIANCE - IRAN ECONOMIC SANCTIONS ACT

A. The undersigned, the owner, or authorized officer of the below-named company (the "Company"), pursuant to the compliance certification requirement provided in the Portage Public School's Request For Proposal (the "RFP"), hereby certifies, represents, and warrants that the Company (which includes its officers, directors and employees) is not an "Iran Linked Business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event the Company is awarded a contract by the Portage Public Schools as a result of the aforementioned RFP, the Company is not and will not become an "Iran Linked Business" at any time during the course of performing any services under the contract.

B. The Company further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the Portage Public School's investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date that it is determined that the person has submitted the false certification.

C. This certificate is to be filled out, signed, and submitted at the time of the submittal.

D. \_\_\_\_\_

E. Company Name

F. \_\_\_\_\_

G. Authorized Representative's Name and Title

H. \_\_\_\_\_

I. Signature

J.

K. \_\_\_\_\_

L. Date

**END OF DOCUMENT 00 4546**

**SECTION 00 7200 - GENERAL CONDITIONS**

1.1 FORM OF GENERAL CONDITIONS

- A. AIA Document A201, General Conditions of the Contract for Construction, 2017 Edition, is the General Conditions between the Owner and Contractor.
- B. Refer to this document for pertinent information. Failure to consult this document shall not relieve the contractor of his obligations therein. Copies of this document may be viewed at the office of the Architect, and may be purchased at the following location:
  - a. AIA Michigan
  - b. 4219 Woodward Avenue
  - c. Detroit, MI 48201
  - d. (313) 965-4100

1.2 SUPPLEMENTARY CONDITIONS

- A. Refer to Document 00 7300 for amendments to these General Conditions.

**END OF DOCUMENT 00 7200**

**SECTION 00 7300 - SUPPLEMENTARY CONDITIONS**

**INTENT**

- 1.1 These Supplementary Conditions amend and supplement the General Conditions defined in Document 00 7200 and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.
- 1.2 The terms used in these Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.
- A. MODIFICATIONS TO AIA A 201**
- B. ARTICLE 1 – GENERAL PROVISIONS**
- 1.3 1.1 BASIC DEFINITIONS
- 1.4 Make the following changes to subparagraph 1.1.1:
- A. 1.1.1 In the first sentence, replace the phrase "Conditions of the Contract" with the phrase "Contracting Requirements."
- 1.5 Replaces paragraph 1.1.9 with the following:
- A. 1.1.9 The Project Manual is a volume assembled for the Work which may include Procurement Requirements, Contracting Requirements, and Specifications.
- 1.6 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS
- 1.7 Add the following clause to Subparagraph 1.2.1
1. .1 Indicated results shall include those that can be reasonably inferred from the Contract Documents, whether expressly stated or not.
- 1.8 Add the following subparagraph to Paragraph 1.2:
- A. 1.2.4: In the case of an inconsistency between Drawings and Specifications, or within either Document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation.



**B. ARTICLE 3 – CONTRACTOR**

1.9 3.4 LABOR AND MATERIALS

1.10 Add the following subparagraphs to Paragraph 3.4:

- A. 3.4.4: After the Contract has been executed, the Owner and the Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements of the Specifications (Division 01).
- B. 3.4.5: By making requests for substitutions based on Subparagraph 3.4.4 above, the Contractor:
  - 1. .1 represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
  - 2. .2 represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
  - 3. .3 certifies that the cost data presented is complete and includes all related costs under this Contract but excludes costs under separate Contracts, and excludes the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
  - 4. .4 will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
- C. 3.4.6: Not later than 30 days from the Contract Date, the Contractor shall provide a list showing the name of the manufacturer proposed to be used for each of the principle products called for in the Specifications, and where applicable, the name of the installing Subcontractor.
  - 1. .1 The Architect will promptly reply in writing to the Contractor stating whether the Owner or the Architect, after due investigation, has reasonable objection to any such proposal. If adequate data on any proposed manufacturer or installer is not available, the Architect may state that action will be deferred until the Contractor provides further data. Failure of the Owner or the Architect to reply promptly shall constitute notice of no reasonable objection. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents, and all products furnished by the listed manufacturer must conform to such requirements.
- D. 3.4.7: The Owner's cost for Architect's services, at Architect's normal billing rates, for review of substitution requests shall be deducted from the Contract Amount regardless of Architect's recommendation of acceptance or rejection of the substitution.

1.11 3.6 TAXES

1.12 Add the following subparagraph to Paragraph 3.6:

- A. 3.6.2: The Owner is a nonprofit corporation and therefore is exempt from State Sales and Use Tax and Federal Excise Taxes. However, the Contractor is responsible for the payment of any tax obligation it may incur in connection with the Work of this Project.

1.13 3.12 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- A. Add the following subparagraph 3.12.11 to Paragraph 3.12:
- B. 3.12.11: The Architect's review of Contractor's submittals will be limited to examination of an initial submittal and one (1) resubmittal. The Owner is entitled to obtain reimbursement from the Contractor for amounts paid to the Architect for evaluation of additional resubmittals.

1.14 3.18 INDEMNIFICATION

1.15 Make the following changes in Subparagraph 3.18.1:

- A. 3.18.1: In the first sentence, after the words ". . . or resulting from", insert the words "or in connection with". After the words "damage, loss or expense is", delete the phrase beginning with "attributable to . . ." and ending with ". . . regardless of whether or not such claim, damage, loss or expense is". In the second sentence, after the words ". . . of indemnity", insert the words "or contribution".

1.16 Add the following subparagraphs to Paragraph 3.18:

- A. 3.18.3 "Claims, damages, losses and expenses" as these words are used in this agreement shall be construed to include, but not be limited to (1) injury or damage consequent upon the failure of or use or misuse by the Contractor, his subcontractors, agents, servants or employees, of any hoist, rigging, blocking, scaffolding, or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by the Owner; and (2) all attorney's fees and costs incurred in bringing an action to enforce the provisions of this indemnity or any other indemnity contained in the General Conditions, as modified by the Supplementary Conditions.
- B. 3.18.4: Only to the extent prohibited by law, the obligations of the Contractor under this agreement shall not extend to the liability of the Owner, Architect, their agents or employees, arising out of their negligence.

**C. ARTICLE 4 – ARCHITECT**

1.17 4.1 GENERAL

1.18 Add the following clause to subparagraph 4.1.1:

- 1. .1: The terms Architect and Architect/Engineer as defined here and used in the Contract Documents shall mean Tower Pinkster Titus Associates, Inc.

1.19 4.2 ADMINISTRATION OF THE CONTRACT

1.20 Add the following clause 4.2.2.1 to subparagraph 4.2.2:

1. .1 The Owner's cost for Architect's services, at Architect's normal billing rates, for amounts paid to the Architect for site visits made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

B. Add the following clause 4.2.7.1 to subparagraph 4.2.7

1. .1 In no case will the Architect's review period on any submittal be less than 14 days after receipt of the submittal from the Contractor.

1.21 Add the following clause 4.2.14.1 to subparagraph 4.2.14:

1. .1 The Owner's cost for Architect's services, at Architect's normal billing rates, in responding to requests of the Contractor shall be deducted from the Contract Amount if the intent of the documents is clear in the opinion of the Architect, or if the request for information contains a request for substitution.

**B. ARTICLE 7 – CHANGES IN THE WORK**

1.22 7.2 CHANGE ORDERS

1.23 Delete Subparagraph 7.2.2 and substitute the following:

A. 7.2.2: Adjustments to the Contract Sum shall be based on the Contractor's direct cost plus overhead and profit.

B. 7.2.3: Contractor's direct cost shall be determined in accordance with Subparagraph 7.3.6.

1. .1: All proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving more than \$100.00 be approved without such itemization.

C. 7.2.4: Combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:

1. .1: For the Contractor, for Work performed by the Contractor's own forces, 15 percent of the cost.
2. .2: For the Contractor, for Work performed by the Contractor's Subcontractor, 5 percent of the amount due to the Subcontractor.
3. .3: For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor or Sub-subcontractor's own forces, 15 percent of the cost.
4. .4: For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractor's, 5 percent of the amount due to the Sub subcontractor.

**D. ARTICLE 9 – PAYMENTS AND COMPLETION**

1.24 9.3 APPLICATIONS FOR PAYMENT

1.25 Add the following Clause 9.3.1.3 to Subparagraph 9.3.1 of 9.3:

1. .3 Until the Work is Substantially Complete, the Owner will pay 90 percent of the amount due the Contractor on account of progress payments.

**B. ARTICLE 11 – INSURANCE AND BONDS**

1.26 11.1 CONTRACTOR'S LIABILITY INSURANCE

1.27 Add the following Clauses 11.1.1.9 and 11.1.1.10 to 11.1.1:

1. .9 Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:
  - a. A. Premises Operations (including X, C, and U coverages as applicable).
  - b. B. Independent Contractor Protective.
  - c. C. Products and Completed Operations.
  - d. D. Personal Injury.
  - e. E. Contractual, including specified provision for Contractor's obligation under Par. 3.18.
  - f. F. Owned, non-owned and hired motor vehicles.
  - g. G. Broad Form Property Damage including Completed Operations.
2. .10 If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverage required to be maintained after final payment, certified in accordance with Subparagraph 9.10.2.

1.28 Add the following Clause 11.1.2.1 to 11.1.2:

1. .1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law:
  - a. A. Commercial General Liability (including Premises-Operations; Independent Contractor's Protective; Products and Completed Operations; Broad Form Property Damage):
    - 1) 1) General Aggregate (Applied in total to this Project only) \$2,000,000.00
    - 2) 2) Bodily Injury:
      - a) a. Each Occurrence \$1,000,000.00
    - 3) 3) Products and Completed Operation to be maintained
    - 4) for one Year after final payment, aggregate \$2,000,000.00
    - 5) 4) Personal Injury \$1,000,000.00
    - 6) 5) Fire Damage (Any one fire) \$100,000.00
    - 7) 6) Medical Expense (Any one person) \$5,000.00

- 8) 7) Property Damage Liability Insurance shall provide X, C, and U coverage.
- 9) 8) Broad Form Property Damage Coverage shall include Completed Operations.
- b. B. Business Auto Liability on Combined Single Limit or Occurrence Basis d (including owned, non-owned and hired vehicles):
  - 1) 1) Combined Single Limit Basis \$1,000,000.00
- c. C. Umbrella Excess Liability:
  - 1) 1) Each Occurrence \$5,000,000.00
  - 2) 2) Aggregate \$5,000,000.00
- d. D. Worker's Compensation:
  - 1) 1) State Statutory
  - 2) 2) Applicable Federal Statutory
  - 3) 3) Employer Liability:
    - a) a. Each Accident \$500,000.00
    - b) b. Disease - Policy Limit: \$500,000.00
    - c) c. Disease - Each Employee: \$500,000.00
    - d)

1.29 11.3 PROPERTY INSURANCE

1.30 Delete Clause 11.3.1.4 and substitute the following:

- 1. .4 The Contractor shall provide insurance coverage for portions of the Work stored off the site or in transit, after written approval of the Owner, at the value established in the approval when such portions of the Work are included in an Application for Payment under Subparagraph 9.3.2.

B. 11.3.1 ADDITIONAL INSURED PROVISION

- 1. A. Portage Public Schools and Tower Pinkster Titus Associates, Inc., its elected or appointed officers, officials, employees and volunteers are
- 2. included as insured with regard to damages and defense in claims arising from:
- 3.
  - a. Activities performed by or on behalf of the Name Insured
  - b. Products and completed operations of the Named Insured
  - c. Premises owned, leased or used by the Name Insured
  - d. The ownership, operation, maintenance, use, loading or unloading of any vehicle owned, leased, hired or borrow by the Name Insured.

1.31 11.4 PERFORMANCE BOND AND PAYMENT BOND

1.32 Add the following Subparagraph 11.4.3:

A. 11.4.3: The bond value requirements are as follows:

- 1. .1 Provide a 100 percent Performance Bond on AIA A312.
- 2. .2 Provide a 100 percent Payment Bond on AIA A312.
- 3. .3 Deliver bonds within 7 days after execution of the Contract.

1.33 Add the following Article 16:

**A. ARTICLE 16 – EQUAL OPPORTUNITY**

1.34 16.1 CONTRACTOR'S EMPLOYMENT POLICY

A. 16.1.1 The Contractor shall maintain policies of employment as follows:

1. .1 The Contractor and its sub-contractors shall not discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges or employment, or any matter directly or indirectly related to employment, because of race, color, religion, sex, national origin, or age. Breach of this covenant will be regarded as a material breach of the Contract.
2. .2 The Contractor and all Subcontractors shall in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or age.

**END OF DOCUMENT 00 7300**

**PROJECT NO. 21150.00  
VIDEO SURVEILLANCE UPGRADES - 2021  
PORTAGE PUBLIC SCHOOLS**

**WAGE RATE REQUIREMENTS  
00 7343 - 1  
07/28/2021**

**SECTION 00 7343 - WAGE RATE REQUIREMENTS**

**1.1 PREVAILING WAGE REQUIREMENTS**

- A. Payment of a minimum of the prevailing wage rate is not a requirement of this project.

**END OF DOCUMENT 00 7343**

## SECTION 01 1000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site and Construction Phasing
4. Coordination with occupants.
5. Work restrictions.
6. Specification and drawing conventions.

#### 1.2 PROJECT INFORMATION

##### A. Project Identification: Video Surveillance Upgrades - 2021

##### 1. Project Locations:

Portage Central High School – 8135 S. Westnedge Ave., Portage, MI 49002  
Portage Northern High School – 1000 Idaho Ave., Portage, MI 49024  
West Middle School – 7145 Moorsbridge Rd., Portage, MI 49002  
Portage Public Schools Transportation – 2501 Zylman Ave., Portage, MI 49002  
Amberly Elementary School – 6637 Amberly St., Portage, MI 49024  
Angling Road Elementary School – 5340 Angling Rd., Portage, MI 49024  
Central Elementary School – 8422 S. Westnedge Ave., Portage, MI 49002  
Haverhill Elementary School – 6633 Haverhill Ave., Portage, MI 49024  
Lake Center Elementary School – 10011 Portage Rd., Portage, MI 49002  
Moorsbridge Elementary School – 7631 Moorsbridge Rd., Portage, MI 49024  
Portage Community Education Center – 1010 W. Milham Ave., Portage, MI 49024  
12<sup>th</sup> Street Elementary School – 6501 S. 12<sup>th</sup> St., Portage, MI 49024  
Woodland Elementary School – 1401 Woodland Ave., Portage, MI 49024  
Administration Building – 8107 Mustang Drive, Portage, MI 49002

##### B. Owner:

Portage Public Schools  
8107 Mustang Drive  
Portage, MI 49002

##### 1. Owner's Representative:

Dan Vomastek – Director Information and Technology Systems – Portage Public Schools



C. Designer:

Chris Hamilton, Senior Technology Designer  
Tower Pinkster Titus Associates, Inc.  
242 E. Kalamazoo Avenue, Suite 200  
Kalamazoo, MI 49007

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. The provision and installation of surveillance cameras. Buildings with provided floorplans have locations for adds, moves and changes. The remaining buildings, that do not have provided floorplans are "one-for-one" camera replacements only (ie.- no moves or additions). Any new data cabling required will be provided by a separate provider outside the scope of this contract. However, the awarded camera contractor shall be required to survey the camera locations to compile a list of locations that will require any new data cabling or special pathway work. The camera contractor shall coordinate with the Owner's cabling contractor.

B. Type of Contract.

1. Project will be constructed under an approved work order issued by Portage Public Schools.

1.4 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
  - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
  - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.5 COORDINATION WITH OCCUPANTS

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 of property. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.

2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

#### 1.6 WORK RESTRICTIONS

- A. Contractor may begin work on-sites immediately upon Contract execution. The work must be completed before November 01, 2021.
- B. Work Restrictions, General: Comply with restrictions on construction operations.
  1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- C. On-Site Work Hours: Second shift work hours starting 30 min after release of students until a time TBD., Monday through Friday, work on Saturdays and Sundays shall be coordinated with the Owner/Architect.
- D. Existing 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 not less than two days in advance of proposed utility interruptions.
  2. Obtain Owner's written permission before proceeding with utility interruptions.
- E. Nonsmoking Building: Smoking is not permitted within the boundaries of any Owner property.
- F. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

#### 1.7 CRIMINAL BACKGROUND CHECKS

- A. All employees of the Contractor, that will be performing any work at any Owner facility, shall have a criminal background check maintained on file by the Contractor. The background check shall include Misdemeanor, Felony and Sex Offender checks. Checks may be performed by a private company or government agency and at the Contractor's expense. Results of background checks shall be maintained by the Contractor. Names of the employees, who have had checks performed, shall be submitted to the Construction Manager, or Owner if requested.

#### 1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.

**END OF SECTION 01 1000**

## SECTION 01 2500 - SUBSTITUTION PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
  - 2. Divisions 02 through 33 Sections for specific requirements and limitations for substitutions.

#### 1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
    - a. Unavailability due to failure to procure products in a timely manner does not constitute substitution for cause and will be considered as substitutions for convenience.
  - 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.

#### 1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use facsimile of form provided in Project Manual.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication, or installation cannot be provided, if applicable.
    - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate installers, that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  - e. Samples, where applicable or requested.
  - f. Certificates and qualification data, where applicable or requested.
  - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
  - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
  - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
  - k. Cost information, including a proposal of change, if any, in the Contract Sum.
  - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
  - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
  - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

#### 1.4 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.

### PART 2 - PRODUCTS

#### 2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
  1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
    - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.

- b. Requested substitution provides sustainable design characteristics that specified product provided.
  - c. Requested substitution will not adversely affect Contractor's construction schedule.
  - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
  - e. Requested substitution is compatible with other portions of the Work.
  - f. Requested substitution has been coordinated with other portions of the Work.
  - g. Requested substitution provides specified warranty.
  - h. If requested substitution involves more than one installer, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Architect will consider requests for substitution if received within 20 days after the Notice of Award.
- 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
    - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
    - b. Requested substitution does not require extensive revisions to the Contract Documents.
    - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - d. Requested substitution provides sustainable design characteristics that specified product provided.
    - e. Requested substitution will not adversely affect Contractor's construction schedule.
    - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
    - g. Requested substitution is compatible with other portions of the Work.
    - h. Requested substitution has been coordinated with other portions of the Work.
    - i. Requested substitution provides specified warranty.
    - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
  - 2. The Owner's cost for Architect's services, at Architect's normal billing rates, for review of substitution request shall be deducted from the Contract Amount regardless of Architect's recommendation of acceptance or rejection of the proposed substitution.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2500

## SECTION 01 2900 - PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
  - 1. Division 01 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

#### 1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
  - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including Application for Payment forms with Continuation Sheets Submittals Schedule and Contractor's Construction Schedule.
  - 2. Submit the Schedule of Values to Architect through Construction Manager at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Subschedules: 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 the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one-line item for each Specification Section.
  - 1. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of Architect.
    - c. Architect's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  - 2. Submit draft of AIA Document G703 Continuation Sheets.
  - 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
  - 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
  - 5. 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.
  - 6. 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.

7. 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.
8. 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.
9. 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.

### 1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and Construction Manager and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Progress payments shall be submitted to Construction Manager by the twenty-fifth of the month. The period covered by each Application for Payment is one month, ending on the last day of the month. Applications received by the Construction Manager after the twenty-fifth of the month will be held until the following month.
  1. Within 10 days of the end of the month, the Construction Manager will submit approved applications to the Architect for review and certification.
  2. Within 10 days of receipt from the Construction Manager, the Architect will review applications, certify as appropriate, and submit to the Owner for payment.
- C. Payment Application Forms: Use AIA Document G702/CMA and AIA Document G703 Continuation Sheets 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. Construction Manager 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 of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit 1 signed and notarized original copy of each Application for Payment to Construction Manger by a method ensuring receipt. Provide waivers of lien and similar attachments if required.
  1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.



- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
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 final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Waiver Forms: Submit waivers of lien on forms, executed in a manner 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. Schedule of unit prices.
  5. Submittals Schedule (preliminary if not final).
  6. List of Contractor's staff assignments.
  7. List of Contractor's principal consultants.
  8. Copies of building permits.
  9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  10. Initial progress report.
  11. Report of preconstruction conference.
  12. Certificates of insurance and insurance policies.
- H. Application for Payment at Substantial Completion: After issuing 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 Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
  5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
  6. AIA Document G707, "Consent of Surety to Final Payment."
  7. Evidence that claims have been settled.
  8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
  9. Final, liquidated damages settlement statement.

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10. Certification, signed by Contractor, stating that no asbestos containing materials were used in the construction of this project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 01 2900**

## SECTION 01 3100 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General coordination procedures.
  - 2. Requests for Information (RFIs).
  - 3. Project meetings.
- B. Related Requirements:
  - 1. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
  - 2. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
  - 3. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.

#### 1.2 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

#### 1.3 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, and telephone number of entities 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.

#### 1.4 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 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.

#### 1.5 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
  3. Owner's cost for Architect's services, at Architect's normal billing rate, in responding to requests for information from the Contractor, will be deducted from the Contract Amount if the intent of the documents is clear in the opinion of the Architect.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
  2. Project number.
  3. Date.
  4. Name of Contractor.
  5. Name of Architect.
  6. RFI number, numbered sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  12. Contractor's signature.

13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: AIA Document G716 or software-generated form with substantially the same content if acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
  1. The following RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods, or other similar items not in the Architect's control.
    - 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 RFIs or inaccurately prepared RFIs.
  2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
  3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Manager in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Use software log with not less than the following:
  1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Architect.
  4. RFI number including RFIs that were dropped and not submitted.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Architect's response was received.
- 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 days if Contractor disagrees with response.
  1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.6 PROJECT MEETINGS

- A. General: 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 days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. 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.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing and long-lead items.
    - d. Designation of key personnel and their duties.
    - e. Procedures for processing field decisions and Change Orders.
    - f. Procedures for RFIs.
    - g. Procedures for testing and inspecting.
    - h. Procedures for processing Applications for Payment.
    - i. Distribution of the Contract Documents.
    - j. Submittal procedures.
    - k. Preparation of record documents.
    - l. Use of the premises.
    - m. Work restrictions.
    - n. Working hours.
    - o. Owner's occupancy requirements.
    - p. Responsibility for temporary facilities and controls.
    - q. Procedures for moisture and mold control.
    - r. Procedures for disruptions and shutdowns.
    - s. Construction waste management and recycling.
    - t. Parking availability.
    - u. Office, work, and storage areas.
    - v. Equipment deliveries and priorities.
    - w. First aid.
    - x. Security.
    - y. Progress cleaning.
  3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
  2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related RFIs.
    - d. Related Change Orders.
    - e. Purchases.
    - f. Deliveries.
    - g. Submittals.
    - h. Review of mockups.
    - i. Possible conflicts.
    - j. Compatibility problems.
    - k. Time schedules.
    - l. Weather limitations.
    - m. Manufacturer's written instructions.
    - n. Warranty requirements.
    - o. Compatibility of materials.
    - p. Acceptability of substrates.
    - q. Temporary facilities and controls.
    - r. Space and access limitations.
    - s. Regulations of authorities having jurisdiction.
    - t. Testing and inspecting requirements.
    - u. Installation procedures.
    - v. Coordination with other work.
    - w. Required performance results.
    - x. Protection of adjacent work.
    - y. Protection of construction and personnel.
  3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at biweekly intervals.
1. 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.
  2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be

expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

- 1) Review schedule for next period.
- b. Review present and future needs of each entity present, including the following:
  - 1) Interface requirements.
  - 2) Sequence of operations.
  - 3) Status of submittals.
  - 4) Deliveries.
  - 5) Off-site fabrication.
  - 6) Access.
  - 7) Site utilization.
  - 8) Temporary facilities and controls.
  - 9) Progress cleaning.
  - 10) Quality and work standards.
  - 11) Status of correction of deficient items.
  - 12) Field observations.
  - 13) Status of RFIs.
  - 14) Status of proposal requests.
  - 15) Pending changes.
  - 16) Status of Change Orders.
  - 17) Pending claims and disputes.
  - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
  - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 01 3100**



## SECTION 01 3200 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Contractor's construction schedule.
  - 2. Construction schedule updating reports.
  - 3. Daily construction reports.
  - 4. Site condition reports.
- B. Related Requirements:
  - 1. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
  - 2. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

#### 1.2 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.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. PDF electronic file.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Daily Construction Reports: Submit at monthly intervals.
- E. Site Condition Reports: Submit at time of discovery of differing conditions.
- F. Special Reports: Submit at time of unusual event.

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

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice of Award 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.
- B. Activities: Treat each story 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 10 Insert number days, unless specifically allowed by Architect.
  - 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  - 3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
  - 4. 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.
  - 5. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.
  - 1. Work Restrictions: Show the effect of the following items on the schedule:
    - 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.
- 2. Work Stages: Indicate important stages of construction for each major portion of the Work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. 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.
  - 3. Rejected or unreturned submittals.
  - 4. Notations on returned submittals.
  - 5. Pending modifications affecting the Work and Contract Time.
- F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.

## 2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 15 days of date established for the Notice of Award.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
  - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

## 2.3 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. Accidents.
  - 8. Meetings and significant decisions.
  - 9. Unusual events.
  - 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. Site 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.

## 2.4 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
  2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

**END OF SECTION 01 3200**

## SECTION 01 3300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
  - 1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
  - 2. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
  - 3. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

#### 1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.
- 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.
- C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

#### 1.3 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
  - 1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
  - 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 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.
  - 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.

- a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
4. Format: Arrange the following information in a tabular format:
  - a. Scheduled date for first submittal.
  - b. Specification Section number and title.
  - c. Submittal category: Action; informational.
  - d. Name of subcontractor.
  - e. Description of the Work covered.
  - f. Scheduled date for Architect's final release or approval.
  - g. Scheduled date of fabrication.
  - h. Scheduled dates for purchasing.
  - i. Scheduled dates for installation.
  - j. Activity or event number.

#### 1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic copies of digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
  1. Architect's copyright protected CAD drawings are available strictly for the use of preparing shop drawings, in AutoCAD version 2009 format.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  1. Completeness: Submittal packages that do not contain all required submittals, with the exception of verification samples when selection samples are also required, will be returned without the Architect taking action.
  2. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  3. 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. 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 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  3. Resubmittal Review: Allow 15 days for review of each resubmittal.

4. Consultant Review: Where review of submittals by Architect's consultants, Owner, or other parties is necessary, allow 21 days for initial review of each submittal.
- D. Electronic Submittals: Identify and incorporate information in each electronic submittal file 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.
    - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.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 Owner, containing the following information:
    - a. Project name.
    - b. Date.
    - c. Name and address of Architect.
    - d. Name of Contractor.
    - e. Name of firm or entity that prepared submittal.
    - f. Names of subcontractor, manufacturer, and supplier.
    - g. Category and type of submittal.
    - h. Submittal purpose and description.
    - i. Specification Section number and title.
    - j. Specification paragraph number or drawing designation and generic name for each of multiple items.
    - k. Drawing number and detail references, as appropriate.
    - l. Location(s) where product is to be installed, as appropriate.
    - m. Related physical samples submitted directly.
    - n. Indication of full or partial submittal.
    - o. Transmittal number.
    - p. Submittal and transmittal distribution record.
    - q. Other necessary identification.
    - r. Remarks.
  5. 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.
- E. Options: Identify options requiring selection by Architect.
- F. Deviations: Identify deviations from the Contract Documents on submittals.
- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
  2. Note date and content of revision in label or title block and clearly indicate extent of revision.
  3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- H. 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.
- I. 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.

## PART 2 - PRODUCTS

### 2.1 SUBMITTAL PROCEDURES

#### A. General Submittal Procedure Requirements:

1. Submit electronic submittals via email as PDF electronic files.
  - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
2. Action Submittals: Submit number of paper copies of each submittal as required for construction, coordination with other portions of the Work, and retained by Architect. Architect will retain two copies.
  - a. Architect will retain an additional copy where review by Architect's consultant is required.
3. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
  - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

#### B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
  - a. Manufacturer's catalog cuts.
  - b. Manufacturer's product specifications.
  - c. Standard color charts.



- d. Statement of compliance with specified referenced standards.
  - e. Testing by recognized testing agency.
  - f. Application of testing agency labels and seals.
  - g. Notation of coordination requirements.
  - h. Availability and delivery time information.
4. For equipment, include the following in addition to the above, as applicable:
- a. Wiring diagrams showing 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 before or concurrent with Samples.
6. Submit Product Data in the following format:
- a. PDF electronic file.
- 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, unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
  2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
  3. Submit Shop Drawings in the following format:
    - a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.

- c. Sample source.
    - d. Number and title of applicable Specification Section.
  3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
  4. 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.
  5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit two full sets 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.
  6. 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 sets of Samples. Architect will retain two Sample sets; remainder will be returned.
      - 1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit 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. Submit product schedule in the following format:
    - a. PDF electronic file.
- F. Coordination Drawings Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- G. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

- H. Application for Payment and Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."
- J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
- K. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."
- L. 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.
- M. 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 AWS forms. Include names of firms and personnel certified.
- N. 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.
- O. 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.
- P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- R. 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.
- S. 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.
- T. 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.
- U. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."
- V. 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.

- W. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- X. 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.
- Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

## 2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
  - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Division 01 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

**3.2 ARCHITECT'S ACTION**

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
  - 1. Reviewed: No corrections, no marks. Submittal complies with the design intent of the Contract Documents.
  - 2. Furnish as Corrected: Minor corrections; all items can be fabricated or furnished without further correction; checking is complete, and all corrections are obvious without ambiguity.
  - 3. Revise and Resubmit: Minor corrections; noted items must not be furnished or fabricated without further corrections; checking is not complete; details of items noted are to be clarified before resubmitting; items not noted to be corrected can be fabricated or furnished under this stamp.
  - 4. Rejected: Submittal is not in compliance with the design intent of the Contract Documents. Provide new submittal that complies with Contract Documents. Any delay resulting from the submission of items not complying with the Contract Documents is solely the responsibility of the Contractor, which will bear all associated costs.
- 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. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

**END OF SECTION 01 3300**

## SECTION 01 4000 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. 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.
  - 2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Requirements:
  - 1. Divisions 27 through 28 Sections for specific test and inspection requirements.

#### 1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
  - 1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.
- D. 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.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
  - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

### 1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

### 1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
  - 1. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.
- 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.

**1.5 REPORTS AND DOCUMENTS**

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, and telephone number of testing agency.
  4. Dates and locations of samples and tests or inspections.
  5. Names of individuals making tests and inspections.
  6. Description of the Work and test and inspection method.
  7. Identification of product and Specification Section.
  8. Complete test or inspection data.
  9. Test and inspection results and an interpretation of test results.
  10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.
  13. Recommendations on retesting and reinspection.
- B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representatives making report.
  2. Statement on condition of substrates and their acceptability for installation of product.
  3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  5. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

**1.6 QUALITY ASSURANCE**

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.



- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- 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 Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
  - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's 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. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
    - d. When testing is complete, remove test specimens, assemblies, and 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 in location and of size indicated or, if not indicated, as directed by Architect.
  - 2. Notify Architect seven days in advance of dates and times when mockups will be constructed.

3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
  - a. Allow seven days for initial review and each re-review of each mockup.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed unless otherwise indicated.

#### 1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
  1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
  2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, 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 required to verify that the Work complies with requirements, whether specified or not.
  1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
    - b. Testing shall not be preformed by the installer, or a subcontractor to the installer.
  2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting 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 inspecting 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. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.
- D. Retesting/Reinspection: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspection, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
  3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

## 1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Conducted by a qualified testing agency or special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
  2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
  4. Submitting a final report of special tests and inspections at Substantial Completion, 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 reinspecting 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 reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 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 01 4000**

## SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 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.

#### 1.2 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.
- 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 where capacity and appropriate voltage are available without disruption to Owner's use. Provide connections and extensions of services as required for construction operations.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire prevention program.
- C. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
  - 1. Locations of dust-control partitions at each phase of work.
  - 2. HVAC system isolation schematic drawing.
  - 3. Location of proposed air-filtration system discharge.
  - 4. Waste handling procedures.
  - 5. Other dust-control measures.

1.4 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.

1.5 PROJECT CONDITIONS

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

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly.

2.2 EQUIPMENT

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

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
  - 1. Locate facilities to limit site disturbance as specified in Division 01 Section "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

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

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
  1. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- D. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
- E. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
  1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- G. Telephone Service: Provide superintendent with cellular telephone.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
  1. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. 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.
- C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- D. 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.

- E. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
  - 1. Identification Signs: Provide Project identification signs as indicated on Drawings.
  - 2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
    - a. Provide temporary, directional signs for construction personnel and visitors.
  - 3. Maintain and touchup signs so they are legible at all times.
- F. 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."

### 3.4 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.
- 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. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- D. 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.
- E. Site Enclosure Fence: Before demolition operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
  - 1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
  - 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- G. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- H. Temporary 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.



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.

### 3.5 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 01 5000**

## SECTION 01 6000 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This 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; product substitutions; and comparable products.
- B. Related Sections include the following:
  - 1. Division 01 Section "Closeout Procedures" for submitting warranties for Contract closeout.
  - 2. Divisions 27 through 28 Sections for specific requirements for warranties on products and installations specified to be warranted.

#### 1.2 DEFINITIONS

- A. Products: Items purchased 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, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
  - 3. Comparable Product: Product that is demonstrated and approved through 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: Where a specific manufacturer's product is named and accompanied by the words "basis of design," 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.

#### 1.3 SUBMITTALS

- A. Substitution Requests: Submit four 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 during Construction Request Form: Use facsimile of Document 00 6325 - Substitution during Construction Request Form.
  2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified material or product cannot be provided.
    - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
    - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
    - e. Samples, where applicable or requested.
    - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
    - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
    - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
    - j. Cost information, including a proposal of change, if any, in the Contract Sum.
    - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
    - l. 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 7 days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
    - a. Form of Acceptance: Change Order.
    - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
  4. The Owner's cost for Architect's services, at Architect's normal billing rates, for review of substitution requests may be deducted from the submitting Contractor's Contract Amount regardless of Architect's recommendation of acceptance or rejection of the substitution.
- B. Comparable Product Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of

receipt of request, or 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.

#### 1.4 QUALITY ASSURANCE

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

#### 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

- B. Delivery and Handling:

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

- C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.
5. 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.

## 1.6 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: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
  2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
  3. Refer to Divisions 02 through 49 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, that are undamaged and, unless otherwise indicated, that are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
  2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  3. Owner reserves the right to limit selection to products with warranties not in conflict with 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. General: All materials and products shall be free from asbestos.
- B. Product Selection Procedures:
1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
3. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
4. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
5. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
6. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
7. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
8. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.
9. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product match.
  - a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.
10. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
  - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
  - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 PRODUCT SUBSTITUTIONS

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

1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's

- additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. Requested substitution does not require extensive revisions to the Contract Documents.
  3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
  4. Substitution request is fully documented and properly submitted.
  5. Requested substitution will not adversely affect Contractor's Construction Schedule.
  6. Requested substitution has received necessary approvals of authorities having jurisdiction.
  7. Requested substitution is compatible with other portions of the Work.
  8. Requested substitution has been coordinated with other portions of the Work.
  9. Requested substitution provides specified warranty.

### 2.3 COMPARABLE PRODUCTS

- A. Conditions: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
  2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
  3. Evidence that proposed product provides specified warranty.
  4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
  5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

**END OF SECTION 01 6000**

## SECTION 01 7300 - EXECUTION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Construction layout.
  - 2. Field engineering and surveying.
  - 3. Installation of the Work.
  - 4. Cutting and patching.
  - 5. Progress cleaning.
  - 6. Starting and adjusting.
  - 7. Protection of installed construction.
- B. Related Requirements:
  - 1. Division 01 Section "Summary" for limits on use of Project site.
  - 2. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

#### 1.2 INFORMATIONAL SUBMITTALS

- A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.
- B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

#### 1.3 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
  - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
  - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.



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

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
  1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
  2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."

### 3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
  - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  - 2. Establish limits on use of Project site.
  - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 4. Inform installers of lines and levels to which they must comply.
  - 5. Check the location, level and plumb, of every major element as the Work progresses.
    - a. Include footings, foundations, anchor bolts, and similar items.
  - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
  - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

**3.4 FIELD ENGINEERING**

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
- B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
  - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

**3.5 INSTALLATION**

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- 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 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.
  - 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. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.6 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching of the material being cut and patched. 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: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- 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 minimize 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. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 3. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
  - 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. Provide materials and comply with installation requirements specified in other Sections, where applicable.
  - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

### 3.7 PROGRESS CLEANING

- A. General: 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.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### 3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Division 01 Section "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section "Quality Requirements."

### 3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

**END OF SECTION 01 7300**

## SECTION 01 7700 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 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 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 for instructing Owner's personnel.
  - 4. Divisions 27 through 28 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

#### 1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

#### 1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.5 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 10 days prior to requesting inspection 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, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
  3. Submit closeout submittals specified in individual Divisions 02 through 33 Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Submit maintenance material submittals specified in individual Divisions 02 through 33 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 where applicable.
    - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
  5. Submit test/adjust/balance 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 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
  2. Complete startup and testing of systems and equipment.
  3. Perform preventive maintenance on equipment used prior to Substantial Completion.
  4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Division 01 Section "Demonstration and Training."
  5. Advise Owner of changeover in heat and other utilities.
  6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  7. Complete final cleaning requirements, including touchup painting.
  8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of



items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

## 1.6 FINAL COMPLETION PROCEDURES

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection 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.

B. Inspection: Submit a written request for final inspection to determine acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

## 1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A.

1. Organize list of spaces in sequential order.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Submit list of incomplete items in the following format:
  - a. PDF electronic file. Architect will return annotated copy.

## 1.8 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, 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 the Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (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.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

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

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Remove snow and ice to provide safe access to building.
    - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - h. Remove labels that are not permanent.
    - i. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
    - j. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.

- k. Leave Project clean and ready for occupancy.

### **3.2 REPAIR OF THE WORK**

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specify condition.
  - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
  - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
    - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
  - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

**END OF SECTION 01 7700**

## SECTION 01 7839 - PROJECT RECORD DOCUMENTS

### PART 1 - GENERAL

#### 1.1 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. Divisions 27 through 28 Sections for specific requirements for project record documents of the Work in those Sections.

#### 1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit one set of marked-up record prints.
- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

### PART 2 - PRODUCTS

#### 2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, 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. Record data as soon as possible after obtaining it.
    - c. Record and check the markup before enclosing concealed installations.
  2. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
  1. Format: Annotated PDF electronic file with comment function enabled.
  2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
  3. Refer instances of uncertainty to Architect for resolution.
  4. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
- C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
  1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. 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. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. 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. Note related Change Orders, record Product Data, and record Drawings where applicable.

- B. Format: Submit record Specifications as annotated PDF electronic file.

### 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  - 3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- B. Format: Submit record Product Data as annotated PDF electronic file.

### 2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.

## PART 3 - EXECUTION

### 3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

**END OF SECTION 01 7839**

## SECTION 01 7900 - DEMONSTRATION AND TRAINING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
- B. Related Sections include the following:
  - 1. Division 01 Section "Project Management and Coordination" for requirements for preinstruction conferences.
  - 2. Divisions 27 through 28 Sections for specific requirements for demonstration and training for products in those Sections.

#### 1.2 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 01 Section "Quality Requirements," experienced in operation and maintenance procedures and training.

#### 1.3 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.
- B. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals.

### PART 2 - PRODUCTS

#### 2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections.

- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
1. Basis of System Design, Operational Requirements, and Criteria: Include system and equipment descriptions, operating standards, regulatory requirements, equipment function, operating characteristics, limiting conditions, and performance curves.
  2. Documentation: Review emergency, operations, and maintenance manuals; Project Record Documents; identification systems; warranties and bonds; and maintenance service agreements.
  3. Emergencies: Include instructions on stopping; shutdown instructions; operating instructions for conditions outside normal operating limits; instructions on meaning of warnings, trouble indications, and error messages; and required sequences for electric or electronic systems.
  4. Operations: Include startup, break-in, control, and safety procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; operating procedures for emergencies and equipment failure; and required sequences for electric or electronic systems.
  5. Adjustments: Include alignments and checking, noise, vibration, economy, and efficiency adjustments.
  6. Troubleshooting: Include diagnostic instructions and test and inspection procedures.
  7. Maintenance: Include inspection procedures, types of cleaning agents, methods of cleaning, procedures for preventive and routine maintenance, and instruction on use of special tools.
  8. Repairs: Include diagnosis, repair, and disassembly instructions; instructions for identifying parts; and review of spare parts needed for operation and maintenance.

### **PART 3 - EXECUTION**

#### **3.1 INSTRUCTION**

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
1. Schedule training with Owner, through Construction Manager, with at least seven days' advance notice.
- D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a performance-based test.

**END OF SECTION 01 7900**



## SECTION 27 0500 – COMMON WORK RESULTS FOR COMMUNICATIONS

### PART 1 - GENERAL

#### 1.1 Documents

- A. This section of the of the specification is part of the contract documents and is to be read, interpreted and coordinated with all other parts.

#### 1.2 Summary

- A. Section Includes:
  - 1. Overview
  - 2. Abbreviations
  - 3. Contractor Qualifications
  - 4. Standards and Guidelines
  - 5. Quality Assurance
  - 6. Permits and Inspections

#### 1.3 Overview

- A. This document must be read, interpreted and coordinated with all other related specifications to deliver a complete Telecommunications infrastructure system.
- B. This specification prescribes mandatory requirements for the Telecommunications infrastructure system.
- C. A structured approach is specified which will ensure a flexible distribution system that will minimize the future costs of moves, additions and changes.
- D. The Contractor will supply, furnish, and install all material, labor, tools, equipment and services required for construction and put into regular operation the complete Telecommunications system as shown on the Telecommunications drawings, described in the specifications, and any attached appendices.
- E. Any and all proposed changes to this specification shall be subject to approval in writing to the Architect prior to implementation.

#### 1.4 Abbreviations

- A. 8P8C: 8-position, 8-contact
- B. ANSI: American National Standards Institute
- C. ASTM: American Society for Testing and Materials
- D. 10Gig: 10-Gig Active Ethernet

- E. 10GPON: 10-Gigabit Symmetrical Passive Optical Network
- F. A/V: Audio Visual
- G. AC: Alternating Current
- H. ADN: Area Distribution Node
- I. APC: Angled Physical Contact
- J. BICSI: Building Industry Consulting Service International.
- K. Coated RMC: PVC Coated Rigid Metallic Conduit
- L. UL: Listed by Underwriters Laboratories (United States)
- M. EIA: Electronic Industries Alliance
- N. EMI: Electromagnetic Interference
- O. EMT: Electrical Metallic Tubing
- P. ENT: Electrical Non-metallic Tubing
- Q. ER: Equipment Room
- R. DC: Direct Current
- S. EF: Entrance Facility
- T. GRC: Galvanized rigid steel conduit
- U. IMC: Intermediate metal conduit
- V. IDF: Intermediate Distribution Frame
- W. AHJ: Authority Having Jurisdiction
- X. LAN: Local Area Network
- Y. MDF: Main Distribution Frame
- Z. MPTL: Modular Plug Terminated Link
- AA. OSP: Outside Plant Wiring
- BB. PDU: Power Distribution Unit
- CC. PoE: Power over Ethernet
- DD. RCDD: BICSI Registered Communications Distribution Designer

- EE. RGS: Rigid Galvanized Steel
- FF. RU: Rack Unit
- GG. SFP: Small Form Pluggable
- HH. SMF: Single Mode Fiber
- II. STP: Shielded Twisted Pair
- JJ. TECH: BICSI certified Technician
- KK. TDMM: Telecommunications Distribution Methods Manual (BICSI)
- LL. TECH: BICSI Technician
- MM. TIA: Telecommunications Industry Association
- NN. TR: Telecommunications Room
- OO. UPS: Uninterruptable Power Supply
- PP. UTP: Unshielded Twisted Pairs
- QQ. UPC: Ultra Physical Contact
- RR. WAO: Work Area Outlet
- SS. WAP: Wireless Access Point

#### 1.5 Contractor Qualifications

- A. The Contractor will have experience in the installation and testing of similar systems as specified herein and will have completed at least two projects of similar size and scope within the last 24 months. The contractor will provide references upon request (including the project name, address, date of implementation, client name, title, telephone number and project description).
- B. All members of the installation team must be certified by the Manufacturer as having completed the necessary training to complete their part of the installation. All personnel will be adequately trained in the use of such tools and equipment as required.
- C. The Contractor must maintain a state Contractor's license as required by the state.
- D. The Contractor's lead installer shall have a current manufacturer certification for the equipment being supplied and shall be onsite for the duration of the project.

#### 1.6 Standards and Guidelines

- A. The following organizations publish telecommunications construction standards with provisions that, through reference in this text, constitute provisions of this Document. At the time of publication of this Document, the

editions of the standards published by the organizations indicated were valid. Installers of telecommunications and networking services for this project must adhere to the telecommunication standards published by these organizations, all standards are subject to revision; parties to agreements based on this Document shall apply the most recent editions of the standards published by the organizations indicated.

1. Federal Communications Commission (FCC)
2. Institute of Electrical and Electronics Engineers, Inc (IEEE)
3. National Fire Protection Association (NFPA)
4. National Electrical Safety Code (NESC)
5. American National Standards Institute (ANSI)
6. Telecommunications Industry Association (TIA)
7. Electronic Industries Alliance (EIA)
8. Building Industry Consulting Service International (BICSI)

B. Applicable Standards and Guidelines

1. The following list of methods and standards included are considered part of this specification. This is a list of primary references and does not limit the applicability of other standards that are incorporated into the work described in these specifications. They incorporate generally accepted communications infrastructure practices described in Standards documents (and addenda) published by recognized standards bodies and organizations. These include standards published by the Telecommunications Industry Association/Electronics Industries Alliance (TIA/EIA) and Building Industry Consultant Services International (BICSI).
  - a. ANSI/TIA/ EIA 568B, Commercial Building Telecommunications Cabling Standard  
This prescribes the requirements for Intrabuilding copper and optical fiber cable performance, installation and testing
  - b. ANSI/TIA/EIA 569B, Telecommunication Standard for Pathways and Spaces. This standard includes specifications for the design and construction of pathways and spaces within buildings required to support information technology equipment and cable media.
  - c. ANSI/TIA/EIA 607, Commercial Building Grounding and Bonding Requirement. This document includes the components of an effective grounding system for communication systems within public and commercial buildings.
  - d. ANSI/TIA/EIA 758, BICSI Customer Owned Outside Plant Telecommunications Cabling
  - e. Standard. This standard provides specifications for Interbuilding communication facilities that
  - f. include cable media, pathways and spaces.
  - g. ANSI/TIA/EIA 862, Building Automation Systems Cabling Standard for Commercial Buildings. This standard describes the generic cable system for building automation systems (BAS) that are intended to support a multi-product, multi-vendor automation environment within public and commercial buildings.
  - h. Building Industry Consulting Services International (BICSI) Telecommunications Distribution Methods Manual, 14th Edition. This is a manual of proven design guidelines and methods accepted by the telecommunications industry.
  - i. ANSI/NFPA 70, National Electrical Code, (NEC) Current Edition. In addition to standards related to electrical safety, the NEC has several sections that specifically address low voltage cable installation.

1.7 Quality Assurance

- A. The latest National Electrical Code shall be observed and shall govern the character of work, style, quantity and the size of all material used.
- B. All materials shall conform with the standards of the Underwriter's Laboratories in every case where such standards have been established for the particular type of material in question.
- C. All material and equipment shall be UL listed and bear the UL label where such listing and labeling exists.
- D. The complete electrical installation shall comply with all the requirements of the MI.O.S.H.A.
- E. Codes shall be used as minimum requirements, and where the Specifications or Plans call for an installation that exceeds and does not violate the Code requirements, the Specifications and Plans shall be followed.

1.8 Permits and Inspections

- A. The Contractor shall obtain and pay for all permits required by the State of Michigan Labor Department, Electrical Division.
- B. The Contractor shall submit, to precede request for final payment, a copy of the Certificate of Inspection as required by the State of Michigan.

**END OF SECTION 27 0500**

## SECTION 27 0553 - IDENTIFICATION FOR COMMUNICATIONS SYSTEMS

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Color and legend requirements for labels and signs.
2. Labels.
3. Cable ties.
4. Hook & Loop (Velcro).
5. Fasteners for labels and signs.

#### 1.2 ACTION SUBMITTALS

- A. Labels
- B. Hook & Loop (Velcro)

#### 1.3 INFORMATIONAL SUBMITTALS

##### A. Installer Credentials:

1. Valid certificates shall be provided to TowerPinkster prior to project kick-off.

### PART 2 - PRODUCTS

#### 2.1 PERFORMANCE REQUIREMENTS

- A. Comply with NFPA 70 and TIA 606-B.
- B. Comply with ANSI Z535.4 for safety signs and labels.
- C. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
  1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

#### 2.2 COLOR AND LEGEND REQUIREMENTS

##### A. Equipment Identification Labels:

1. White letters on a Black field.

## 2.3 LABELS

- A. Self-Adhesive Wraparound Labels: computer printed, 3-mil-thick, vinyl flexible labels with acrylic pressure-sensitive adhesive.
  1. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating protective shields over the legend. Labels sized such that the clear shield overlaps the entire printed legend.
  2. Marker for Labels: Permanent, waterproof black ink marker recommended by tag manufacturer.
  3. Marker for Labels: Machine-printed, permanent, waterproof black ink recommended by printer manufacturer.
  4. Handwritten labels are not approved.
- B. Self-Adhesive Labels: Vinyl, thermal, transfer-printed, 3-mil-thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
  1. Minimum Nominal Size:
    - a. 1-1/2 by 6 inches for raceway and conductors.
    - b. 3-1/2 by 5 inches for equipment.
    - c. As required by authorities having jurisdiction.

## 2.4 CABLE TIES

1. Cable ties are not allowed in any permanent installation.
2. Any cable tie used during installation, on a temporary basis, shall be removed prior to project completion.

## 2.5 HOOK & LOOP (VELCRO)

1. All cables to be bundled using Hook & Loop products (Velcro)
2. Panduit Part # HLS-75R0 or equal.

## 2.6 FASTENERS FOR LABELS AND SIGNS

- A. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.

- B. Verify identity of each item before installing identification products.
- C. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- D. Apply identification devices to surfaces that require finish after completing finish work.
- E. Install signs with approved legend to facilitate proper identification, operation, and maintenance of communications systems and connected items.
- F. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from the floor.
- G. Self-Adhesive Wraparound Labels:
  - 1. Secure tight to surface at a location with high visibility and accessibility.
  - 2. Provide label within 12 inches from each cable end.
- H. Self-Adhesive Labels:
  - 1. On each item, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
  - 2. Unless otherwise indicated, provide a single line of text with 1/2-inch-high letters on 1-1/2-inch-high label; where two lines of text are required, use labels 2 inches high.

### 3.2 IDENTIFICATION SCHEDULE

- A. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.
- B. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations with high visibility. Identify by system and circuit designation.
- C. Accessible Fittings for Raceways and Cables within Buildings: Identify covers of each junction and pull box with self-adhesive labels containing wiring system legend.
  - 1. System legends shall be as follows:
    - a. Telecommunications.
- D. Faceplates: Label individual faceplates with self-adhesive labels. Place label at top of faceplate. Each faceplate shall be labeled with its individual, sequential designation, numbered clockwise when entering room from primary egress, composed of the following, in the order listed:
  - 1. Refer to detail drawings
- E. Equipment Room Labeling:
  - 1. Racks, Frames, and Enclosures: Identify front and rear of each with self-adhesive labels containing equipment designation.



2. Patch Panels: Label individual rows and outlets, starting at to left and working down, with self-adhesive labels.
  
- F. Backbone Cables: Label each cable with a self-adhesive wraparound label indicating the location of the far or other end of the backbone cable. Patch panel or punch down block where cable is terminated should be labeled identically.
  1. Fiber optic cables shall be labeled on each end within 12 inches of where fiber cable enters enclosure.
  
- G. Horizontal Cables: Label each cable with a self-adhesive wraparound label indicating the following, in the order listed:
  1. Refer to detail drawings.
  
- H. Instructional Signs: Self-adhesive labels.
  
- I. Warning Labels for Indoor Cabinets, Boxes, and Enclosures: Self-adhesive labels.
  1. Apply to exterior of door, cover, or other access.
  
- J. Equipment Identification Labels:
  1. Indoor Equipment: Self-adhesive label.
  2. Outdoor Equipment: Laminated-acrylic or melamine-plastic sign.
  3. Equipment to Be Labeled:
    - a. Communications cabinets.
    - b. Uninterruptible power supplies.
    - c. Computer room air conditioners.
    - d. Fire-alarm and suppression equipment.
    - e. Egress points.
    - f. Power distribution components.

**END OF SECTION 27 0553**

IP ADDRESS REQUEST FORM

Request Date:

Install Deadline:

Company:

Contact Name:

Contact Phone:

Contact Email:

Building/Location:

Project Number:

**Request Type (SELECT ONE – USE SEPARATE FORM FOR EACH REQUEST)**

- Connection / Configure Existing Data Drop
- New Data Cable Installation
- VPN / Remote Access

**Connect / Configure Existing Data Drop:**

Purpose / Description for Connected Device (Lighting Control, AV Equipment, Electrical Equipment, Printer, Etc.):

\_\_\_\_\_

Number of Devices or Switch Ports Required: \_\_\_\_\_

Number of Ports That Require Poe: \_\_\_\_\_

Device Location / Room #: \_\_\_\_\_

Data Drop ID: \_\_\_\_\_

Does the Device Require A Static IP Address?  YES  NO

**Add New Data Cable:**

Purpose / Description for New Data Cable:

\_\_\_\_\_

Number of Data Cables to Add: \_\_\_\_\_

Number of Ports Requiring Poe: \_\_\_\_\_

Device Location / Room #: \_\_\_\_\_

Does the Device Require A Static IP Address?  YES  NO

PROJECT NO. 21150.00  
VIDEO SURVEILLANCE UPGRADES - 2021  
PORTAGE PUBLIC SCHOOLS

IP ADDRESS REQUEST FORM  
27 2626 - 2  
07/28/2021

**VPN / Remote Access:**

Purpose / Description for Connected Device:

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Server Name or Equipment IP Address That Requires Remote Access:

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Your Company's Public IP Address That You Will Be Connecting From: \_\_\_\_\_

**Signatures**

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

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

Owner Authorization Signature: \_\_\_\_\_

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

## SECTION 28 2000 - VIDEO SURVEILLANCE

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes video surveillance camera replacements, additions and relocations.

#### 1.2 ACTION SUBMITTALS

- A. Provide product data sheets with specific part numbers highlighted.
  - 1. IP Based Cameras.
  - 2. Camera Mounting Accessories.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Camera Aiming Documentation.
  - 1. Create a spreadsheet with the following columns and submit during submittal process. Camera name (on drawings), camera name (as directed by owner), Camera Make/Model, MAC address, IP Address, View, Camera Image, Status, Comments, and Sign Off. Leave all fields blank except for Camera Name (drawings) and camera Make/Model. Camera Name (drawings) and camera make/model shall be completed as part of submittal.
    - a. Camera name (drawings): Device number provided by architect
    - b. Camera name (owner): Device name provided by owner
    - c. Camera make and model.
    - d. MAC address
    - e. IP address: as provided by owner
    - f. View: what the view is aiming to achieve Status: camera status at time of document iteration
    - g. Comments: Any additional aiming that needs to be completed.
    - h. Sign Off: for architect and owner to sign off each camera as complete.

#### 1.4 CLOSEOUT SUBMITTALS

- A. As-Built Drawings.
  - 1. Provide electronic (minimum .pdf) copy of as built conditions of cameras, mounts, their cable's port, rack, and closet number, and aiming views (along with a screenshot of view at time of completion).
- B. Operation and Maintenance Data.

#### 1.5 PROJECT CONDITIONS

- A. Environmental Conditions: Capable of withstanding the following environmental conditions without mechanical or electrical damage or degradation of operating capability:

1. Control Station: Rated for continuous operation in ambient temperatures of 60 to 85 deg F (16 to 29 deg C) and a relative humidity of 20 to 80 percent, noncondensing.
2. Interior, Controlled Environment: System components, except central-station control unit, installed in air-conditioned interior environments shall be rated for continuous operation in ambient temperatures of 36 to 122 deg F (2 to 50 deg C) dry bulb and 20 to 90 percent relative humidity, noncondensing. Use NEMA 250, Type 1 enclosures.
3. Interior, Uncontrolled Environment: System components installed in non- temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 0 to 122 deg F (minus 18 to plus 50 deg C) dry bulb and 20 to 90 percent relative humidity, noncondensing. Use NEMA 250, Type 3R enclosures.
4. Exterior Environment: System components installed in locations exposed to weather shall be rated for continuous operation in ambient temperatures of minus 30 to plus 122 deg F (minus 34 to plus 50 deg C) dry bulb and 20 to 90 percent relative humidity, condensing. Rate for continuous operation when exposed to rain as specified in NEMA 250, winds up to 85 mph (137 km/h) and snow cover up to 24 inches (610 mm) thick. Use NEMA 250, Type 3S enclosures.
5. Security Environment: Camera housing for use in high-risk areas where surveillance equipment may be subject to physical violence.

#### 1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of cameras, equipment related to camera operation, and control-station equipment that fail in materials or workmanship within specified warranty period.
  1. Warranty Period: Three years from date of Substantial Completion.

#### 1.7 CONTRACTOR REQUIREMENTS

- A. Contractor shall be a fully authorized reseller and fully trained installer for the equipment provided.
- B. Contractor shall have a permanent business location, with manufacturer-trained installation staff, located within 75 miles of the project job sites.

### PART 2 - PRODUCTS

#### 2.1 SYSTEM REQUIREMENTS

- A. Video-signal format shall comply with NTSC standard, at a minimum resolution of 720p.
- B. Surge Protection: Protect components from voltage surges entering through power, communication, signal, control, or sensing leads. Include surge protection for external wiring of each conductor's entry connection to components.
- C. Tamper Protection: Tamper switches on enclosures, control units, pull boxes, junction boxes, cabinets, and other system components shall initiate a tamper-alarm signal when unit is opened or partially disassembled. Control-station, control-unit alarm display shall identify tamper alarms and indicate locations.

## 2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Video surveillance system shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
  - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NECA 1.
- D. Comply with NFPA 70.
- E. Electronic data exchange between video surveillance system with an access-control system shall comply with SIA TVAC.

## 2.3 IP BASED CAMERAS

- A. Manufacturers:
  - 1. Refer to camera schedules located in the project drawings.
  - 2. Substitutions: The Owner has standardized on Avigilon video surveillance cameras. The Owner's existing VMS is Avigilon. No product substitutions shall be considered.
- B. Description:
  - 1. Cameras shall provide high-quality delivery and processing of IP-based video, audio, and control data using standard Ethernet-based networks.
  - 2. Cameras shall be powered over ethernet (PoE) and where data cable distance or model type requires, be supported by PoE injectors and/or power assist methods.
  - 3. Cameras shall meet the following standards:
    - a. Interior: IP66, IK10, FCC Class A, CE, Vandal resistant
    - b. Exterior: IP66, IK10, FCC Class A, CE, Vandal resistant
  - 4. Camera models shall be installed at their intended locations and all necessary supporting equipment, including brackets, mounts, and housings, shall be provided.
  - 5. Cameras shall be integrated into an existing Avigilon VMS. Any required storage expansion and camera licensing is provided and configured by the Owner.
  - 6. Graphical user interface software shall manage all IP-based video matrix switching and camera control functions, two-way audio communication, alarm monitoring and control, and recording and archive/retrieval management. IP system shall also be capable of integrating into larger system environments.
  - 7. System design shall include all necessary compression software for high-performance (H.264 or better), dual-stream, MPEG-4 video or better, and transmission via unicast or multicast. Unit shall provide connections for all video cameras, camera PTZ control data, bidirectional audio, discreet sensor inputs, and control system outputs.
  - 8. All camera signals shall be compressed, encoded, and delivered onto the network for processing and control by the IP video-management software.

9. Camera system units shall be ruggedly built and designed for extreme adverse environments, complying with NEMA Type environmental standards.

## 2.4 CAMERA-SUPPORTING EQUIPMENT

- A. Manufacturers:
  1. Avigilon Mounts and Mount Accessories
    - a. Refer to project drawing details
- B. All mounting hardware, required/suggested by the project drawings, required/suggested by the manufacturer, and/or required by site conditions for a particular camera location shall be supplied by the camera contractor as part of their base bid.
- C. Minimum Load Rating: Rated for load in excess of the total weight supported times a minimum safety factor of two.
- D. Mounting Brackets for Fixed Cameras: Type matched to items supported and mounting conditions. Include manual pan-and-tilt adjustment. Include all necessary components for specified devices.

## 2.5 NETWORK VIDEO RECORDERS

- A. Existing by Owner. Any required NVR-end configurations shall be provided by the Owner.

## 2.6 LICENSING

- A. Camera licenses for server are Owner provided.

## PART 3 - EXECUTION

### 3.1 WIRING

- A. Any new Category 6 data cabling that is required to support new camera locations is provided by others in a separate contract.
- B. The camera contractor shall be required to provide minor relocations of existing Category 6 data cabling where cameras are being moved to a nearby location. Generally, the existing cables have 20'-25' of available service loop above the ceiling at the existing camera locations.
- C. The camera contractor shall be required to perform a pre-installation camera location site survey to assess the current data cabling to ensure the cable has the required length for any relocation necessary. The survey shall be performed within 10 days of contract execution. The camera contractor shall document any locations that require any of the following:
  1. Longer Category 6 data cable
  2. Longer Category 6 patch cable
  3. Through-wall low voltage sleeve(s)

4. Conduit and/or surface boxes
5. Raceway and/or surface boxes
6. PoE extender

- D. The camera contractor shall provide a concise and neatly organized camera location survey document to the Architect for review with the Owner. This information shall be utilized by the Owner for contracting structured cabling services in a separate contract.
- E. Grounding: Provide independent-signal circuit grounding recommended in writing by manufacturer.

### 3.2 VIDEO SURVEILLANCE SYSTEM INSTALLATION

- A. Install cameras with 24-inch minimum clear space below cameras and their mountings. Change type of mounting to achieve required clearance.
- B. Prior to install, the following process must be completed:
  1. Default camera username and password configured to owner-provided standard.
  2. Obtain submittal document from Architect with "Views" column completed.
  3. Provide document to Owner and Architect with MAC addresses filled out
- C. Prior to installation, set views according to returned submittal document. The following items shall be completed prior to project closeout:
  1. Verify final views with owner while installing. If owner or architect cannot be reached, obtain a digital image and send to owner and architect for review of final positioning.
  2. Connect all controls and alarms and adjust.
  3. Obtain owner/architect sign off on spreadsheet.
- D. Confirm power and data connectivity on device and network side; for devices that do not have sufficient power or full data transmission.
- E. Identify system components, wiring, cabling, and terminals according to Section 27 0553 "Identification for Communications Systems."
  1. Labeling: Label each camera housing with the corresponding device number on prints as well as closet number and port of data drop associated to camera. Labeling shall be visible without removing the camera housing.

### 3.3 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
  1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Tests and Inspections:



1. Inspection: Verify that units and controls are properly installed, connected, and labeled, and that interconnecting wires and terminals are identified.
  2. Pretesting: Align and adjust system and pretest components, wiring, and functions to verify that they comply with specified requirements. Conduct tests at varying lighting levels, including day and night scenes as applicable. Prepare video-surveillance equipment for acceptance and operational testing as follows:
    - a. Verify operation of auto-iris lenses.
    - b. Set back-focus of fixed focal length lenses. At focus set to infinity, simulate nighttime lighting conditions by using a dark glass filter of a density that produces a clear image. Adjust until image is in focus with and without the filter.
    - c. Set back-focus of zoom lenses. At focus set to infinity, simulate nighttime lighting conditions by using a dark glass filter of a density that produces a clear image. Additionally, set zoom to full wide angle and aim camera at an object 50 to 75 feet (17 to 23 m) away. Adjust until image is in focus from full wide angle to full telephoto, with the filter in place.
    - d. Set and name all preset positions; consult Owner's personnel.
    - e. Set sensitivity of motion detection.
    - f. Connect and verify responses to alarms.
    - g. Verify operation of control-station equipment.
  3. Test Schedule: Schedule tests after pretesting has been successfully completed and system has been in normal functional operation for at least 14 days. Provide a minimum of 10 days' notice of test schedule.
  4. Operational Tests: Perform operational system tests to verify that system complies with Specifications. Include all modes of system operation.
- C. Video surveillance system will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.
- 3.4 DEMONSTRATION
- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain video-surveillance equipment.

**END OF SECTION 28 2000**