

# **PROJECT MANUAL**

STATE PROJECT NUMBER DYS – 140117

## **RESTROOM AND LAUNDRY ROOM RENOVATIONS BUILDINGS 1 & 2**

### **INDIAN RIVER JUVENILE CORRECTIONAL FACILITY**

AT

2775 INDIAN RIVER ROAD, S.W.  
MASSILLON, OHIO 44626

PREPARED FOR:

**OHIO DEPARTMENT OF YOUTH SERVICES**  
HARVEY REED, DIRECTOR

**OHIO DEPARTMENT OF ADMINISTRATIVE SERVICES**  
ROBERT BLAIR, DIRECTOR

**GENERAL SERVICES DIVISION**  
ERIK YASSENOFF, DEPUTY DIRECTOR

**OFFICE OF THE STATE ARCHITECT**  
LANE BEOUGHER, STATE ARCHITECT

PREPARED BY:

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**CONFORMED DOCUMENTS: JULY 1, 2016**

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END OF DOCUMENT

# Document 00 10 00 - Solicitation (General Contracting / Electronic Bid) State of Ohio Standard Requirements for Public Facility Construction

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Electronic bids will be received by:

State of Ohio – Department of Youth Services  
<https://bidexpress.com>

for the following Project:

Project DYS-140117  
IRJCF Restroom & Laundry Room Renovations  
Indian River Juvenile Correctional Facility  
2775 Indian River Road, SW  
Massillon, Ohio 44626

in accordance with the Contract Documents prepared by:

KARL R. ROHRER ASSOCIATES, INC.  
1133 PORTAGE TRAIL EXT., SUITE B  
AKRON, OHIO 44313-8283  
Office: (330) 923-8461  
Fax: (330) 697-2808  
John Sweaney, AIA  
[jsweaney@karlrohrer.com](mailto:jsweaney@karlrohrer.com)  
[www.karlrohrer.com](http://www.karlrohrer.com)

In compliance with Section 153.08 of the Ohio Revised Code and Section 153:1-8-01 of the Ohio Administrative Code, Bids for this Project are being received, opened, and published through electronic means using the State's electronic bidding service.

To access this Project through the electronic bidding service, you must first register at <https://bidexpress.com> by clicking on the "REGISTER FOR FREE" button and following the instructions. In order to bid, you must create and enable a digital ID within the service. This process requires the submission of notarized paperwork and may take up to five business days to complete. There are no fees to register, create and enable a digital ID, or to download bid documents. There is a small expense on a monthly or per bid basis to submit a bid. The electronic bidding service offers customer support that may be reached at 888.352.2439 or via email at [support@bidexpress.com](mailto:support@bidexpress.com).

Bidders may submit requests for consideration of a proposed Substitution for a specified product, equipment, or service to the Architect/Engineer ("A/E") no later than 10 days prior to the bid opening. Additional products, equipment, and services may be accepted as approved Substitutions only by written Addendum.

From time to time, the Commission issues new editions of the "State of Ohio Standard Requirements for Public Facility Construction" and may issue interim changes. Bidders must submit Bids that comply with the version of the Standard Requirements included in the Contract Documents.

Prevailing Wage rates and Equal Employment Opportunity requirements are applicable to this Project.

This Project is subject to the State of Ohio's Encouraging Diversity, Growth, and Equity ("EDGE") Business Development Program. A Bidder is required to submit with its Bid and with its Bidder's Qualifications form, certain information about the certified EDGE Business Enterprise(s) participating on the Project with the Bidder. Refer to **Section 6.1.11** of the **Instructions to Bidders**.

## **The EDGE Participation Goal for the Project is 5.0 percent.**

The percentage is determined by the contracted value of goods, services, materials, and labor that are provided by EDGE-certified business(es). The participation is calculated on the total amount of each awarded contract. For more information about EDGE, contact the State of Ohio EDGE Certification Office at <http://das.ohio.gov/eod>, or at its physical location: 4200 Surface Road, Columbus, Ohio 43228-1395; or by telephone at (614) 466-8380.

The Bidder may be subject to a Pre-Award Affirmative Action Compliance Review in accordance with Section 123:2-5-01 of the Ohio Administrative Code including a review of the Bidder's employment records and an on-site review.

The Bidder must indicate on the electronic Bid Form, the locations where its services will be performed in the spaces provided or by attachment in accordance with the requirements of Executive Order 2011-12K related to providing services only within the United States. Failure to do so may cause the Bid to be rejected as non-responsive.

**DOMESTIC STEEL USE REQUIREMENTS AS SPECIFIED IN OHIO REVISED CODE SECTION 153.011 APPLY TO THIS PROJECT. COPIES OF OHIO REVISED CODE SECTION 153.011 CAN BE OBTAINED FROM ANY OF THE OFFICES OF THE OHIO FACILITIES CONSTRUCTION COMMISSION.**

Bidders are encouraged to be enrolled in and to be in good standing in a Drug-Free Safety Program (“DFSP”) approved by the Ohio Bureau of Workers' Compensation (“OBWC”) prior to submitting a Bid and provide, on the Electronic Bid Form with its Bid, certain information relative to their enrollment in such a program; and, if awarded a Contract, shall comply with other DFSP criteria described in **Section 1.6** of the **General Conditions**.

Electronic bids will be received for:

<u>Trade</u>	<u>Estimate</u>
<b>General Contract</b> .....	<b>\$1,060,275.00</b>

until **July 18, 2016, at 2:00 p.m.**, when all Bids will be electronically opened. Bid tabulations will be posted no later than 5:00 p.m. on the day Bids are opened.

All Bidders are strongly encouraged to attend the Pre-Bid Meeting on **July 12, 2016, at 10:00 a.m.** until approximately 11:00 a.m., at the following location:

**Indian River Juvenile Correctional Facility**  
 2775 Indian River Road, SW  
 Massillon, Ohio 44626

The Contractor is responsible for scheduling the Project, coordinating the Subcontractors, and providing other services identified in the Contract Documents.

The Contract Documents are available for purchase from Karl Rohrer Associates, 1133 Portage Trail Ext., Suite B, Akron, Ohio 44313; O - 330-923-8461, F – 330-923-8459, John Sweany [jsweany@karlrohrer.com](mailto:jsweany@karlrohrer.com) or John Origlio [joriglio@karlrohrer.com](mailto:joriglio@karlrohrer.com) at the non-refundable cost of **\$100.00** per set, plus shipping, if requested.

The Contract Documents may be downloaded as electronic PDF files from the State’s electronic bidding service at <https://bidexpress.com> at no charge.

**END OF DOCUMENT**

# Document 00 21 13 - Instructions to Bidders (General Contract)

## State of Ohio Standard Requirements for Public Facility Construction

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### ARTICLE 1 - GENERAL INSTRUCTIONS

#### 1.1 Applicable Law and Forum

1.1.1 The rights of any Bidder or any party to a subsequent Contract shall be governed by the laws of the state of Ohio and only Ohio courts shall have jurisdiction over any action or proceeding related to the Bid or any subsequent Contract. The Bidder irrevocably consents to such jurisdiction.

#### 1.2 Project Scheduling and Coordination

1.2.1 When the Contract Documents refer to a period of time by a number of days, it excludes the first day and includes the last day of the period. If the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted and the period shall end on the next day which is not a Saturday, Sunday, or legal holiday.

1.2.2 The time for completion of the Project indicated on the Bid Form is the time for Contract Completion applicable to the Bidder.

1.2.3 The State may assign all or any portion of its interest in a Contract with one or more of the successful Bidders to another successful Bidder as an agreed condition for an award of the Contract for the respective Bid. The assignment may include, without limitation, the duty to schedule, coordinate, and administer the Contract.

1.2.4 The Contractor is responsible for scheduling the Project, coordinating the Subcontractors, and providing other services identified in the Contract Documents.

1.2.5 By submitting its Bid, the Bidder indicates its understanding that the Contract Sum, based on its Bid and as amended by Change Orders, includes all costs that the Contracting Authority owes the Bidder.

#### 1.3 Written Notice

1.3.1 Notice under the Contract Documents shall be validly given if:

1.3.1.1 delivered personally to a member of the organization for whom the notice is intended;

1.3.1.2 delivered, or sent by registered or certified mail, to the last known business address of the organization; or

1.3.1.3 sent by facsimile, email, or web-based project management software, provided the original signed document is delivered within 3 business days after the date of the electronic transmission.

1.3.2 Notices provided to one Project Participant from another shall be simultaneously copied to the prospective Bidders, the Owner, the Contracting Authority, and the A/E.

## ARTICLE 2 - BIDDING PROCEDURES

### 2.1 Examination of Contract Documents and the Site

2.1.1 Before submitting a Bid, the Bidder shall examine all Contract Documents, including, but not limited to, the Drawings, Specifications, and Addenda for all divisions of Work for the Project, noting in particular all requirements which may affect its Work in any way.

2.1.2 The Bidder's failure to become acquainted with the extent and nature of Work required to complete any portion of the Work in conformity with the requirements of the Contract Documents, shall not be a basis for additional compensation.

2.1.3 Before submitting a Bid, the Bidder should not only examine and evaluate the Site and related Project conditions where the Work will be performed, but shall also consider when the Work will be performed including, but not limited to, the following:

2.1.3.1 the condition, layout, and nature of the Site and surrounding area;

2.1.3.2 the availability and cost of labor;

2.1.3.3 the availability and cost of materials, supplies, and equipment;

2.1.3.4 the cost of temporary utilities required in the Bid;

2.1.3.5 the cost of any permit or license required by a local or regional authority having jurisdiction over the Project;

2.1.3.6 the usual weather conditions of the Project location;

2.1.3.7 conditions bearing upon transportation, disposal, handling, and storage of equipment, materials, and waste; and

2.1.3.8 subsurface and concealed physical conditions and related information provided in the Contract Documents.

### 2.2 Pre-Bid Meeting

2.2.1 The Bidder is encouraged to attend the pre-bid meeting, where the A/E, the Contracting Authority, and the Owner will receive questions regarding the Contract Documents. If not given in Document 00 10 00 – "Solicitation," the A/E shall issue notice of the time and place of any pre-bid meeting to each registered Plan Holder.

2.2.2 The A/E shall prepare minutes of the pre-bid meeting for the Project record. If questions raised by the prospective Bidders require changes to, or clarifications of, the Contract Documents, the A/E shall issue the changes by written Addendum, along with a list of pre-bid meeting attendees.

2.2.3 Additional compensation shall not be based upon the Bidder's failure to attend the pre-bid meeting, which results in the Bidder's incomplete knowledge and familiarity of the Project requirements.

### 2.3 Request for Interpretation

2.3.1 If the Bidder finds any perceived ambiguity, conflict, error, omission, or discrepancy within the Contract Documents, including the Drawings, Specifications, and Addenda, or between any of the Contract Documents and Applicable Law, the Bidder shall submit a written Request for Interpretation ("RFI") to the A/E for an interpretation or clarification.

2.3.1.1 The Bidder is responsible for prompt delivery of the RFI.

2.3.1.2 The A/E shall respond to RFIs received more than 7 days before the bid opening.

2.3.2 The A/E shall issue Addenda in response to RFIs that modify or clarify the Contract Documents. Any Addenda issued within 72 hours before any bid opening (excluding Saturdays, Sundays, and legal holidays) shall extend the bid opening date by 7 days pursuant to Section 3.3.1.

2.3.2.1 The Addenda may be delivered via facsimile or e-mail, posted to a web or FTP site, or otherwise furnished to each registered Plan Holder.

2.3.3 Any interpretation or clarification of the Contract Documents made by any Person other than the A/E, in any manner other than a written Addendum, shall not be binding, and the Bidder shall not rely upon the interpretation or clarification.

2.3.4 The successful Bidder shall not be compensated for a claim alleging insufficient data, incomplete, ambiguous, conflicting, or erroneous Contract Documents or proposed Contract Documents, or assumed conditions regarding the nature, extent, or character of the Work, if the Bidder did not submit a related RFI prior to the bid opening.

## 2.4 Basis of Design and Acceptable Components

2.4.1 The Contract Documents may list components produced by specific manufacturers to denote kind, quality, or performance requirements.

2.4.2 The component listed first is the Basis of Design Component.

2.4.3 Other listed components are Acceptable Components.

2.4.3.1 If the Bidder includes an Acceptable Component in its Bid, the Bidder is responsible for the costs of coordination and modification required.

## 2.5 Substitutions Prior to Bid Opening

2.5.1 If the Bidder proposes to use an article, device, material, equipment, form of construction, fixture, or item other than the Basis of Design or Acceptable Components named in the Specifications, the Bidder shall certify that the proposed item is equal in quality and all aspects of performance and appearance, to the item specified.

2.5.1.1 If approval of a Substitution requires changes to the Contract Documents or affects the work of other trades, the Bidder is responsible for the additional costs, including, but not limited to, changes to the design by the A/E.

2.5.2 The Bidder shall submit its request for Substitution to the A/E no later than 10 days prior to the bid opening, which must include:

2.5.2.1 the name and complete description of the proposed Substitution, including Drawings, performance and test data, and other information necessary for a complete evaluation; and

2.5.2.2 a statement setting forth any changes that the Proposed Substitution will require in the Contract Documents or the Project.

2.5.3 If the A/E approves the Proposed Substitution, the A/E shall issue an Addendum.

2.5.4 If the A/E does not approve the Proposed Substitution, the A/E shall inform the Bidder of its decision, which is final. The A/E may reject a proposed Substitution because the Bidder failed to provide sufficient information to enable the A/E to completely evaluate the Proposed Substitution without causing a delay in the scheduled bid opening.

2.5.5 Proposed Substitutions received by the A/E less than 10 days prior to the bid opening shall not be considered.

## 2.6 Bid Form

2.6.1 Each Bid shall be submitted on the Bid Form and sealed in an envelope clearly marked as containing a Bid, indicating the Contracting Authority's Project number and name, and the date and time of the bid opening on the envelope. Refer to Section 3.1.2 for requirements related to envelope markings.

2.6.1.1 Any change, alteration, omission, or addition in the wording of the Bid Form shall cause the Bid to be rejected as non-responsive.

2.6.1.2 All pages of the Bid Form, including a completed "Bidder Affirmation and Disclosure" page acknowledging that the Bidder affirms, understands, and will abide by the requirements of Executive Order 2011-12K, and a completed "Commitment to Participate in the EDGE Business Assistance Program" page, shall be submitted with the Bid. Failure to do so may cause the Bid to be rejected as non-responsive.

- .1 If the names, locations, and service locations of Subcontractors are not known at the time of the Bid Opening, the Bidder must provide the information requested with its Subcontractor and Material Supplier Declaration form.

2.6.1.3 Unless the Bidder withdraws the Bid as provided in Article 4, the Bidder is required to comply with all requirements of the Contract Documents, regardless of whether the Bidder had actual knowledge of the requirements and regardless of any statement or omission made by the Bidder that might indicate a contrary intention.

2.6.2 The Bidder shall fill in all relevant blank spaces on the Bid Form by printing in ink or by typewriting, and not in pencil.

2.6.2.1 The Bidder shall show all bid amounts in both words and figures. In the case of a conflict between the words and figures, the amount shown in words shall govern, where the words are not ambiguous. When the Bidder's intention and the meaning of the words are clear, omissions, or misspellings of words shall not render the words ambiguous.

2.6.2.2 The Bidder shall initial alteration or erasure of items filled in on the Bid Form.

2.6.3 If the Bidder is a corporation, partnership, or sole proprietorship, an officer, partner or principal of the Bidder shall print or type the legal name of the Bidder on the line provided, and sign the Bid Form. If the Bidder is a joint venture, an officer, partner or principal, as applicable, of each member of the joint venture shall print or type the legal name of the applicable member on the line provided, and sign the Bid Form on behalf of that member. All signatures must be original.

## 2.7 Allowances

2.7.1 If Allowances are provided on the Bid Form, the amount of each Allowance shall be included in the Base Bid amount. Allowances shall be used solely for the purpose of determining the adjustment to the Contract Sum for the difference between the amount of the Allowance and the actual cost of the related Work provided.

## 2.8 Unit Prices

2.8.1 If Unit Prices are requested on the Bid Form, the amount of the scheduled quantities shall be included in the Base Bid amount. Unit prices shall be used solely for the purpose of determining the adjustment to the Contract Sum for the difference between the estimated quantities on the Bid Form and the actual quantities provided.

2.8.2 Unit Prices shall include all materials, equipment, labor, delivery, installation, overhead, profit, and any other cost or expense, in connection with, or incidental to, the performance of that portion of the Work. The Bidder shall submit Unit Prices for all items listed.

## 2.9 Alternates

2.9.1 If an Alternate is listed on the Bid Form, the Bidder shall fill in the applicable blank with an increased or decreased bid amount and indicate which by circling the word "ADD" or the word "DEDUCT" as applicable. The Contracting Authority reserves the right to accept or reject any or all bid amounts for Alternates, in whole or in part, and in any order.

2.9.1.1 If no change in the bid amount is required, indicate "No Change" or "\$0."

2.9.1.2 Failure to make an entry or an entry of "No Bid," "N/A," or similar entry on any Alternate shall cause the Bid to be rejected as non-responsive if that Alternate is selected.

2.9.1.3 Failure to indicate a negative number by circling "DEDUCT," preceding the number by a minus sign, or enclosing the number in parentheses will indicate the Bidder's intent to increase the Base Bid by the amount entered in the applicable blank.

2.9.1.4 If an Alternate is not selected, an entry as listed in Section 2.9.1.2 on that Alternate shall not, by itself, render a Bid non-responsive.

## 2.10 Submittals with Bid Form

2.10.1 The Contracting Authority shall reject a Bid as non-responsive if the Bidder fails to submit the following with the Bid Form in a sealed envelope:

2.10.1.1 A Bid Guaranty as provided in Article 5, meeting the requirements of Ohio Revised Code ("ORC") Sections 153.54 and 153.571.

2.10.2 If the apparent low Bidder does not submit a valid Power of Attorney of the agent signing for the Surety with its Bid, the Contracting Authority shall direct the apparent low Bidder to deliver a valid and appropriate Power of Attorney to the Contracting Authority within a period determined by the Contracting Authority. The Contracting Authority shall not enter into a Contract without a valid Power of Attorney.

2.10.3 The Bidder is encouraged to submit background information with its Bid using the Bidder's Qualifications form and including, but not limited to, the information listed in this Section 2.10. If the apparent low Bidder does not submit the Bidder's Qualifications form and related information with its Bid, the Bidder shall provide it upon request in accordance with Section 3.5.4, including, but not limited to:

2.10.3.1 the overall experience of the Bidder, including number of years in business under present and former business names;

2.10.3.2 a complete listing of all the Bidder's ongoing construction projects and a listing of construction projects which are similar in cost and type to the Project completed by the Bidder in the last 5 years. Include information of the scope of work and value of each contract, a description of Encouraging Diversity Growth and Equity ("EDGE") participation and performance, and a project name/contact Person/address/phone number for the owner and the architect or engineer for each project;

2.10.3.3 a Certificate of Compliance with Affirmative Action Programs, issued pursuant to ORC Section 9.47, by the Equal Opportunity Coordinator of the Department of Administrative Services;

2.10.3.4 a complete listing of Affirmative Action and EDGE program violations in the last 5 years;

2.10.3.5 a complete listing of Prevailing Wage, EPA, OSHA, or other regulatory entity issues or violations in the last 5 years;

2.10.3.6 a complete listing of judgments, claims, arbitration proceedings or suits pending or outstanding in the last 5 years;

2.10.3.7 a complete listing of Drug-Free Workplace Program and Drug-Free Safety Program ("DFSP") violations in the last 5 years;

2.10.3.8 upon request of the Contracting Authority, the apparent low Bidder shall submit the following information, which is not a public record under ORC Section 149.43; and shall remain confidential, except under proper order of a court:

- .1 an annual financial statement prepared within the 12 months prior to the bid opening by an independent licensed accounting firm; and the name, address, contact Person, and phone number of the bank normally used by the Bidder for its primary banking; or

2. a financial report generated within 30 days prior to the bid opening from Standard and Poor, Dun and Bradstreet or a similar company acceptable to the Contracting Authority documenting the financial condition of the Bidder; and the name, address, contact Person, and phone number of the bank normally used by the Bidder for its primary banking.
- 2.10.3.9 a description of the Bidder's relevant facilities and major equipment, whether leased or owned;
- 2.10.3.10 a description of the management experience of the Bidder's project manager(s) and superintendent(s) and a comprehensive resume for each;
- 2.10.3.11 a description of the EDGE-certified Business Enterprises the Bidder proposes as Subcontractors and Material Suppliers for this Project by attaching a fully completed EDGE Affidavit for each EDGE-certified Business Enterprise;
- 2.10.3.12 to support a Bond, a current and signed Certificate of Compliance issued by the Ohio Department of Insurance, showing the Surety is licensed to do business as a surety in Ohio;
- 2.10.3.13 a current Ohio Workers' Compensation Certificate;
- 2.10.3.14 if the Bidder is a foreign corporation not incorporated under the laws of Ohio, a Certificate of Good Standing from the Ohio Secretary of State; or, if the Bidder is a foreign person or partnership, evidence that the Bidder filed, with the Ohio Secretary of State, a Power of Attorney designating the Ohio Secretary of State as the Bidder's agent for the purpose of accepting service of summons in any action brought under ORC Section 153.05 or under ORC Sections 4123.01 to 4123.94, inclusive;
- 2.10.3.15 evidence that the Bidder is enrolled in, and in good standing in, a DFSP approved by the Ohio Bureau of Workers' Compensation ("OBWC"); and
- 2.10.3.16 any other data or information which the A/E may request concerning the responsibility of the Bidder, including a complete list of major Subcontractors with an estimated contract value of \$200,000 or more, which the Bidder proposes to employ on the Project.

## 2.11 Changes in the Bid Amount

- 2.11.1 Any change to a previously submitted Bid shall be in writing and received by the Contracting Authority before the time scheduled for the bid opening.
- 2.11.2 Changes shall provide an amount to be added to, or subtracted from, the bid amount, so that the final bid amount may be determined only after the sealed envelope is opened.
- 2.11.3 If the Bidder's written instruction reveals the bid amount in any way prior to the bid opening, the Contracting Authority may, in its sole discretion, reject the Bid as non-responsive.

## ARTICLE 3 - BID OPENING AND EVALUATION

### 3.1 Delivery of Bid

- 3.1.1 The Bidder shall submit its Bid to the Contracting Authority at the location indicated in Document 00 10 00 - "Solicitation" prior to the time scheduled for the bid opening.
- 3.1.2 If the sealed bid envelope is enclosed in another envelope for the purpose of delivery, the exterior envelope shall also be clearly marked as containing a Bid with the Project name and Project number, construction trade of the Bid, and the date and time of the bid opening shown on the envelope.
- 3.1.3 Bids that arrive at the location designated in Document 00 10 00 - "Solicitation" after the time set for the bid opening shall not be opened or considered.

### 3.2 Bid Opening

3.2.1 Sealed Bids shall be received at the location designated in Document 00 10 00 - "Solicitation" until the time stated when all Bids shall be opened, read aloud, and the tabulation made public.

3.2.2 The public opening and reading of Bids is for informational purposes only and is not to be construed as an acceptance or rejection of any Bid submitted.

3.2.3 The contents of the bid envelope are public records and open for inspection, upon request, at any time after the bid opening, except for any information that is not defined as a public record under Ohio law.

### 3.3 Bid Opening Extension

3.3.1 If an Addendum is issued within 72 hours prior to the published time for the bid opening, excluding Saturdays, Sundays and legal holidays, the bid opening shall be extended 7 days. If the Contracting Authority approves, the bid opening may be extended for more than 7 days, and consideration for additional advertising may be recommended.

3.3.2 As part of issuing any Addendum earlier than 72 hours prior to the published time for the bid opening, excluding Saturdays, Sundays and legal holidays, only the Contracting Authority may approve a revised bid opening date or additional advertising.

### 3.4 Bid Evaluation Criteria

3.4.1 The Contracting Authority reserves the right to accept or reject any or all Bids, in whole or in part, and reserves the right to award the Contract to any remaining Bidder the Contracting Authority determines, in its sole discretion, to have submitted the lowest responsive and responsible Bid.

3.4.2 The Contracting Authority reserves the right to accept or reject any or all Alternates. Alternates may be accepted or rejected in any order.

3.4.3 If any Bidder has engaged in collusive bidding, the Contracting Authority shall reject that Bidder's Bid as non-responsive for the Contract. A collusive bidder may also be debarred from future State Contracts.

3.4.4 The Contracting Authority reserves the right to waive, or to allow any Bidder a reasonable opportunity to cure a minor irregularity or technical deficiency in a Bid, provided the irregularity or deficiency does not affect the bid amount, or otherwise give the Bidder a competitive advantage. Noncompliance with any material requirements of the Contract Documents shall cause a Bid to be rejected as non-responsive.

3.4.5 If, in the opinion of the Owner, the award of the Contract to the lowest Bidder is not in the best interest of the State, with the written consent of the Contracting Authority, the Owner may accept, in its discretion, another Bid so opened, or the Contracting Authority may reject all Bids and advertise for other Bids. The advertisement shall be for the period, in the form, and in the publications directed by the Contracting Authority.

### 3.5 Bid Evaluation Procedure

3.5.1 The Contract shall be awarded to the lowest responsive and responsible Bidder as determined in the discretion of the Contracting Authority, or all Bids may be rejected in accordance with Applicable Law.

3.5.1.1 In determining which Bid is the lowest, the Contracting Authority shall consider the Base Bid and the bid amounts for any Alternate, or Alternates, which the Owner decides, in its sole discretion, to accept.

3.5.1.2 The total of the bid amounts for the accepted Alternate(s) shall be added to, or deducted from, the Base Bid, as applicable, for determining the lowest Bidder.

3.5.1.3 If two Bidders submit the same bid amount and both are determined to be responsive and responsible, the Contracting Authority may select one Bidder by the flip of a coin, which shall be conducted in the presence of both Bidders and shall be final.

- .1 If one of the Bidders refuses to participate in, or fails to be present at, the flip of a coin, the remaining Bidder shall be selected.

3.5.2 A Bidder for a Contract shall be considered responsive if the Bidder's Bid responds to the Contract Documents in all material respects and contains no irregularities or deviations from the Contract Documents that would affect the amount of the Bid or otherwise give the Bidder a competitive advantage.

3.5.2.1 A Bid shall be rejected as non-responsive if the Bid contains a Bid Guaranty executed by a Surety not licensed in Ohio or a Bid Guaranty that is otherwise determined to be insufficient by the Contracting Authority.

3.5.2.2 The Bidder may be subject to a Pre-Award Affirmative Action Compliance Review pursuant to OAC Section 123:2-5-01 including a review of the Bidder's employment records and an on-site review.

- .1 The Bidder must submit the information requested no later than 10 days after receipt of the request. Failure to timely respond to this request for records may result in the Bidder being found non-responsive.

3.5.2.3 If the lowest Bidder is non-responsive, the Bidder shall be notified according to Section 3.6.

3.5.3 In determining whether a Bidder is responsible, factors to be considered include, without limitation:

3.5.3.1 preferences required by law, where applicable;

3.5.3.2 the experience of the Bidder;

3.5.3.3 the financial condition of the Bidder;

3.5.3.4 the conduct and performance of the Bidder on previous Contracts, including compliance with Equal Employment Opportunity in the Construction Industry Administrative Rules, OSHA and Prevailing Wage laws, and demonstration of good faith effort to participate in the EDGE Business Development program, or actual participation in the EDGE Business Development program, or both, as indicated in the ORC and the Ohio Administrative Code;

3.5.3.5 the facilities of the Bidder;

3.5.3.6 the management skills of the Bidder, including the capability of the Bidder to construct and manage the entire Project, including but not limited to the plumbing, fire protection, heating, ventilating and air conditioning, and electrical branches or classes of the Work; and

3.5.3.7 the Bidder's ability to execute the Contract properly, including past performance of the Bidder and the Subcontractors that the Bidder proposes to use on the Project.

3.5.4 The A/E shall obtain from the lowest responsive Bidder any information the Contracting Authority determines appropriate to consideration of factors showing responsibility. If the lowest responsive Bidder is responsible, the Contract shall be awarded to that Bidder, unless all Bids are rejected. The Bidder shall provide all requested information within 3 days of a request from the A/E, or a longer period, if the Contracting Authority consents in writing.

3.5.5 If the lowest responsive Bidder is not responsible, the Contracting Authority shall evaluate the next lowest Bidder according to the procedures set forth in this Section 3.5 until the Contract is awarded, all Bids are rejected, or all responsive Bidders are determined to be not responsible.

### 3.6 Rejection of Bid

3.6.1 If the lowest Bidder is not responsive or responsible, the Contracting Authority shall reject the Bid and notify the Bidder in writing by Certified Mail of the finding and the reasons for the finding.

### 3.6.2 Ten Percent Rule.

3.6.2.1 If the lowest responsive and responsible Bid for the Contract, including the Base Bid and accepted Alternates if any, exceeds an amount 10 percent greater than the published Estimated Construction Cost for the Contract, the Contracting Authority shall reject all Bids.

3.6.3 A Bidder notified in accordance with Section 3.6.1 may object to its rejection by filing a written protest, which must be received by the Contracting Authority within 5 days of the notification provided pursuant to Section 3.6.1.

3.6.4 Upon receipt of a timely protest, the Contracting Authority shall meet with the protesting Bidder to hear its objections. ORC Chapter 119 administrative hearing requirements are not applicable to the bid protest meeting.

3.6.4.1 No Contract award shall become final until after the Contracting Authority has met with all Bidders who have timely filed protests and the award of the Contract is affirmed by the Contracting Authority.

3.6.4.2 If all protests are rejected, the Contract shall be awarded to the lowest responsive and responsible Bidder, or all Bids shall be rejected.

### 3.7 Notice of Intent to Award

3.7.1 The Contracting Authority shall notify the apparent successful Bidder that upon satisfactory compliance with all conditions precedent for execution of the Contract, within the time specified, the Bidder shall be awarded the Contract.

3.7.2 The Contracting Authority reserves the right to rescind any Notice of Intent to Award if the Contracting Authority determines it issued the Notice of Intent to Award in error, or if the conditions precedent for execution of Contract set forth in Article 6 are not met.

## ARTICLE 4 - WITHDRAWAL OF BID

### 4.1 Withdrawal prior to Bid Opening

4.1.1 A Bidder may withdraw a Bid after the Contracting Authority receives the Bid, provided the Bidder makes a request in writing and the Contracting Authority receives the request prior to the time of the bid opening, as determined by the Contracting Authority.

### 4.2 Withdrawal after Bid Opening

4.2.1 The Bid shall remain valid and open for acceptance for a period of 60 days after the bid opening; provided, however, a Bidder may withdraw a Bid from consideration after the bid opening if the bid amount was substantially lower than the amounts of other Bids, providing the Bid was submitted in good faith, and the reason for the bid amount being substantially lower was a clerical mistake, as opposed to a judgment mistake, and was actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of Work, labor, or material made directly in the compilation of the bid amount.

4.2.1.1 Notice of a request to withdraw a Bid shall be made in writing filed with the Contracting Authority within 2 business days after the bid opening. The Contracting Authority reserves the right to request the Bidder to submit evidence substantiating the Bidder's request to withdraw the Bid.

4.2.1.2 No Bid may be withdrawn under Section 4.2.1 which would result in awarding a Contract involving the same item on another Bid to the same Bidder.

4.2.2 If a Bidder withdraws its Bid under Section 4.2.1, the Contracting Authority may award the Contract to the next lowest responsive and responsible Bidder, or reject all Bids and advertise for other Bids. In the event the Contracting Authority advertises for other Bids, the withdrawing Bidder shall pay the costs, in connection with the re-bidding, of printing new Contract Documents, required advertising, and printing and mailing of

notices to prospective Bidders, if the Contracting Authority finds that these costs would not have been incurred but for the withdrawal.

4.2.3 A Bidder may withdraw the Bidder's Bid at any time after the 60-day period described in Section 4.2.1 by giving written notice to the Contracting Authority.

#### 4.3 Refusal to Accept Withdrawal

4.3.1 If the Contracting Authority contests the right of a Bidder to withdraw a Bid pursuant to Section 4.2.1, a hearing shall be held within 10 days after the bid opening and the Contracting Authority shall issue an order allowing or denying the claim of this right within 5 days after the hearing is concluded. The Contracting Authority shall give the withdrawing Bidder timely notice of the time and place of the hearing.

4.3.1.1 The Contracting Authority shall make a stenographic record of all testimony, other evidence, and rulings on the admissibility of evidence presented at the hearing. The Bidder shall pay the costs of the hearing.

4.3.1.2 Pursuant to ORC Section 119.12, the Bidder may appeal the order of the Contracting Authority required by Section 4.3.1.

#### 4.4 Refusal to Perform

4.4.1 In the event the Contracting Authority denies the request for withdrawal and the Bidder refuses to perform the Contract, the Contracting Authority may reject all Bids or award the Contract to the next lowest responsive and responsible Bidder.

#### 4.5 Effect of Withdrawal

4.5.1 A Bidder, who is permitted to withdraw a Bid under Section 4.2.1, shall not supply material or labor to, or perform a subcontract or other work for, the Person to whom the Contract is awarded; or otherwise benefit, directly or indirectly, from the performance of the Project for which the withdrawn Bid was submitted; without the Contracting Authority's prior written consent.

## ARTICLE 5 - BID GUARANTY AND BOND

#### 5.1 Bid Guaranty

5.1.1 The Bidder shall submit a Bid Guaranty with the Bidder's Bid, payable to the Contracting Authority, in the form of either:

5.1.1.1 the signed Document 00 43 13 - "Bid Security Form" contained in the Contract Documents for the amount of the Base Bid plus all additive Alternates; or

5.1.1.2 a certified check, cashier's check, or letter of credit, for 10 percent of the Base Bid, plus all additive Alternates – a letter of credit shall expressly provide that it is revocable only by the Contracting Authority.

5.1.2 The Bid Guaranty shall be in form and substance satisfactory to the Contracting Authority and shall serve as an assurance that upon acceptance of the Bid, the Bidder shall comply with all conditions precedent for Contract execution, within the time specified by the Contracting Authority.

5.1.3 If the blank line on the Bid Guaranty and Contract Bond is not filled in, the penal sum shall be the full amount of the Base Bid plus all additive Alternates. If the blank line is filled in, the amount shall not be less than the full amount of the Base Bid plus all additive Alternates, stated in dollars and cents. A percentage is not acceptable. In the event the blank line is filled in for an amount less than the full amount of the Base Bid plus all additive alternates, the Bid shall be rejected as non-responsive.

5.1.4 An authorized agent must sign the Bid Security Form, and the Bidder shall provide a Power of Attorney from the Surety. A Surety authorized by the Ohio Department of Insurance to transact business in Ohio must issue the Bid Security Form.

5.1.5 The requirements of ORC Section 3901.86 may be applicable requiring an Ohio resident agent countersign the Bid Guaranty and Contract Bond. The Bidder shall determine the applicability of this provision.

5.1.6 Bid Guaranties in the form of a certified check, cashier's check, or letter of credit shall be returned to unsuccessful Bidders 60 days after the bid opening. Bid Guaranties in the form of a certified check, cashier's check, or letter of credit shall be returned to the successful Bidder upon providing Document 00 61 13 - "Performance and Payment Bond Form" from a Surety satisfactory to the Contracting Authority.

## 5.2 Forfeiture of Bid Guaranty

5.2.1 If for any reason, other than as authorized by Section 4.2.1 or 5.3, the Bidder fails to execute the Agreement, and the Contracting Authority awards the Contract to another Bidder, which the Contracting Authority determines is the lowest responsive and responsible Bidder:

5.2.1.1 The Bidder who failed to execute the Agreement is liable to the State for the difference between its Bid and the Bid of the next lowest responsive and responsible Bidder, or for a penal sum not to exceed ten percent of the bid amount, whichever is less.

5.2.2 If the Contracting Authority then awards a Contract to another Bidder, which the Contracting Authority determines is the lowest responsive and responsible Bidder and that Bidder fails or refuses to execute the Agreement:

5.2.2.1 The liability of the lowest responsive and responsible Bidder shall be the difference between the bid amount of the lowest responsive and responsible Bidder and another Bidder which the Contracting Authority determines is the lowest responsive and responsible Bidder, except as provided in Section 5.3, but not in excess of the liability specified in Section 4.2.2.

5.2.2.2 The liability on account of an award to the lowest responsive and responsible Bidder beyond the third lowest responsive and responsible Bidder shall be determined in like manner.

5.2.3 If the Contracting Authority does not award the Contract to another Bidder under Section 5.2.2, but submits the Project for re-bidding:

5.2.3.1 The Bidder failing or refusing to execute the Agreement is liable to the State for a penal sum not to exceed 10 percent of the Bidder's bid amount or the costs in connection with the resubmission of printing new Contract Documents, required advertising, and printing and mailing notices to prospective Bidders, whichever is less, except as provided in Section 5.3.

## 5.3 Exception to Forfeiture

5.3.1 A Bidder for a Contract with the State costing less than \$500,000 may withdraw its Bid from consideration if its Bid for another Contract with the State for less than \$500,000 has already been accepted if:

5.3.1.1 the Bidder certifies in good faith that the total amount of its current contracts is less than \$500,000; and

5.3.1.2 the Bidder's Surety certifies in good faith that the Bidder is unable to perform the subsequent Contract because such performance would exceed the Bidder's bonding capacity.

5.3.2 If a Bid is withdrawn pursuant to Section 5.3.1:

5.3.2.1 the Contracting Authority may award the Contract to another Bidder which the Contracting Authority determines is the lowest responsive and responsible Bidder or reject all Bids and submit the Project for re-bidding; and

5.3.2.2 neither the withdrawing Bidder nor the Bidder's Surety shall be liable for the difference between the Bidder's Bid and that of the next lowest responsive and responsible Bidder for a penal sum, or for the costs of printing new Contract Documents, required advertising, and printing and mailing notices to prospective Bidders.

#### 5.4 Bond

5.4.1 Prior to signing the Agreement, the Bidder shall provide the Bond required by law in form and substance satisfactory to the Contracting Authority, and from a Surety licensed to do business in the state of Ohio and satisfactory to the Contracting Authority.

5.4.1.1 If the Bidder provided Document 00 43 13 - "Bid Security Form," described in Section 5.1.1.1, as its Bid Guaranty then that form shall be the Bond.

5.4.1.2 If the Bidder provided another form of Bid Guaranty, described in Section 5.1.1.2, then Document 00 61 13 - "Performance and Payment Bond Form," described in Section 5.1.6, shall be the Bond.

5.4.1.3 The Bidder shall not be required to provide both forms described above.

5.4.2 The Bond must be in the full amount of the Contract to indemnify the State against all direct and consequential damages suffered by failure of the Contractor to perform according to the provisions of the Contract and in accordance with the Plans, Specifications, details, and bills of material therefore and pay all lawful claims of Subcontractors, Material Suppliers, and laborers for labor performed or materials furnished in performing and completing the Contract.

### ARTICLE 6 - CONTRACT AWARD AND EXECUTION

#### 6.1 Conditions Precedent for Execution of Contract

6.1.1 The successful Bidder must submit the items in this Section 6.1 to the Contracting Authority before executing the Agreement.

6.1.2 Bond, and to support the Bond, a Certificate of Compliance issued by the Ohio Department of Insurance, showing the Surety is licensed to do business in the state of Ohio.

6.1.3 Ohio Workers' Compensation Certificate

6.1.4 Certificate of Compliance with Affirmative Action Programs, issued by the Equal Opportunity Coordinator. The form must be submitted through the Ohio Business Gateway:  
<http://business.ohio.gov/efiling/>.

6.1.5 Certificate of Insurance (ACORD form is acceptable) and copy of additional insured or loss payee endorsement. The Contracting Authority reserves the right to request and receive a certified copy of the Contractor's insurance policies.

6.1.6 If a Bidder is a foreign corporation (e.g., not incorporated under the laws of Ohio) it must submit a Certificate of Good Standing from the Ohio Secretary of State showing the right of the Bidder to do business in the state of Ohio.

6.1.7 If a Bidder is an individual or partnership, nonresident of the State, it must submit a Power of Attorney designating the Ohio Secretary of State as the Bidder's agent for accepting service of summons in any action brought under ORC Section 153.05 or under ORC Sections 4123.01 to 4123.94, inclusive.

6.1.8 If the Contract includes plumbing; electrical; hydronics; refrigeration; and heating, ventilating and air conditioning ("HVAC") Work, the Contractor or its Subcontractors must submit proof of current licensing pursuant to Applicable Law.

6.1.9 Evidence that the Bidder is enrolled in, and in good standing in, a DFSP approved by the OBWC.

#### 6.1.10 Bid Information Escrow.

6.1.10.1 Scope and Purpose: The purpose of this requirement is to preserve, for any Contract of \$2,000,000 or more, the Bid Information as defined in Section 6.1.10.2 of the successful Bidder for use by the Contracting Authority in any claim or litigation arising out of the Contract. The Bidder shall submit to the Contracting Authority a legible copy of all Bid Information used to prepare the Bidder's Bid for the Contract. The Contracting Authority shall place the documentation in escrow with a bonded storage facility.

#### 6.1.10.2 Bid Information:

- 1 "Bid Information" as used in this section includes all writings, working papers, computer printouts, charts and any and all other documentation or data compilations which contain or reflect information, data and calculations used by the Bidder to prepare or determine the Bid submitted by the Bidder for the Project. Bid Information includes, but is not limited to, the Bidder's equipment rates, profit margins, overhead rates, labor rates, efficiency or productivity factors, arithmetic extensions, and quotations from Subcontractors and Material Suppliers to the extent that the rates and quotations were used by the Bidder in determining its Bid. Bid Information also includes any manuals or computer programs used by the Bidder in determining its Bid. The manuals or programs may be included in the Bid Information by reference, which shall include the name and date of the publication, publisher, or program where the manuals or programs are readily available to the Contracting Authority. Bid Information shall not include anything provided by the Contracting Authority for use in submitting a Bid.
- 2 The Bidder agrees that the Bid Information constitutes all information used by Bidder in the calculation, preparation, or determination of its Bid. The Bidder agrees that it may not rely upon any other pre-bid information in making or pursuing claims. Bidder also understands and agrees that nothing in the Bid Information will change or modify the provisions of the Contract Documents.

6.1.10.3 Submittal of Bid Information: Within 10 days of the Notice of Intent to Award, the successful Bidder for any Contract of \$2,000,000 or more shall submit its Bid Information to the Bid Information Escrow agent approved by the Contracting Authority sealed in a container or envelope. The Bidder shall address the sealed container or envelope to itself and in the upper left corner indicate "Bid Documentation," the date of submittal, and the Contracting Authority's Project Number. Failure to submit the Bid Information on a timely basis shall cause the Bid to be rejected and awarded to the next lowest responsive and responsible Bidder. The Bidder shall also attach the Bid Information Escrow Agreement and Affidavit signed by the Bidder to the outside of the container or envelope, attesting that the Bidder has personally examined the Bid Information and that it contains all the documentation used by Bidder in calculating, preparing and determining its Bid.

6.1.10.4 Duration and Use: The Contracting Authority shall not execute the Contract and the Bidder may not commence work until the Bid Information has been received. The Bid Information shall remain in escrow during the term of the Contract or until the Bidder files a claim or initiates litigation against the Contracting Authority related to the Contract. Receipt of the Bidder's claim, or of a complaint initiating litigation against the Contracting Authority, shall entitle the Contracting Authority to obtain the release and custody of the Bid Information for purposes of review. If no claim or litigation is received and the Bidder has otherwise released claims against the State, the Contracting Authority shall instruct the bonded document storage facility to release the sealed container to the Bidder.

6.1.10.5 Refusal or Failure to Provide Bid Information: Failure or refusal to provide the Bid Information within the approved time shall constitute a refusal to execute the Contract. If the Bidder refuses to execute the Contract, the Contracting Authority may enforce the Bid Guaranty and award the Contract to the next lowest responsive and responsible Bidder.

6.1.10.6 Confidentiality of Bid Information: The Bid Information in escrow is a trade secret if the Bidder certifies it as a trade secret in the Bid Information Escrow Agreement and Affidavit. The Bid Information

shall remain the property of the Bidder, unless the Contractor certifies a claim or initiates litigation against the State. In the event of a claim or litigation, the Bid Information shall become the property of the Contracting Authority. The Contracting Authority shall keep the Bid Information confidential, to the fullest extent permitted by law. In the event any dispute arises with any other Person about whether the other Person should be given access to the Bid Information, the Contractor agrees to indemnify the Contracting Authority and the Owner against all costs, expenses, and damages, including attorney fees, incurred or paid due to the request for disclosure.

**6.1.10.7 Bid Information Escrow Agreement and Affidavit:** The Bidder shall sign the Bid Information Escrow Agreement and Affidavit provided with the Notice of Intent to Award, and attach it to the outside of the sealed Bid Information envelope. If the Bidder refuses to sign the agreement, the Contracting Authority may enforce the Bid Guaranty.

**6.1.11 Required Notice of Unresolved Findings for Recovery.**

6.1.11.1 By submitting its Bid, the Bidder warrants that it is not subject to an unresolved findings for recovery under ORC Section 9.24. ORC Section 9.24 prohibits the State from awarding a Contract to any Bidder against whom the Auditor of State has issued a finding for recovery if the finding for recovery is unresolved at the time of award. If the Contract is awarded to a Bidder subject to an unresolved finding for recovery under ORC Section 9.24, the Contract is void on its face and the Contractor shall immediately repay to the Owner any funds paid under the Contract.

**6.1.12 EDGE Program – Supporting Documentation Required.**

6.1.12.1 The Bidder shall provide evidence acceptable to the Contracting Authority of the Bidder's participation in the EDGE Program by contracting with EDGE-certified Business Enterprise(s) for the Project by submitting a fully completed EDGE Affidavit for each EDGE-certified Business Enterprise, by requesting a waiver or partial waiver of the advertised EDGE Program participation goal for the Project on the Bidder's company letterhead including full documentation of the Bidder's good faith effort to contract with EDGE-certified Business Enterprise(s) for this Project, or both.

**6.1.13 Registered Apprentices – Supporting Documentation Required.**

6.1.13.1 The Bidder shall provide evidence acceptable to the Contracting Authority of the registration of all apprentices who the Bidder or its Subcontractors intend to employ on the Project pursuant to ORC Section 4115.05.

**6.2 Non-compliance with Conditions Precedent**

6.2.1 The award of the Contract and execution of the Agreement require the Contractor to comply with:

6.2.1.1 all conditions precedent for execution of the Contract within 10 days of the date of the Notice of Intent to Award; and

6.2.1.2 the Bidder's Qualifications form, including a fully completed EDGE Affidavit for each EDGE-certified Business Enterprise, not previously provided within 3 business days of receiving the Contracting Authority's request.

6.2.2 Non-compliance with the conditions precedent for execution of the Contract as stated in Section 6.1 within the timelines stated in Section 6.2.1 following the date of the Notice of Intent to Award shall be sufficient cause to permit the Contracting Authority to cancel the Notice of Intent to Award, for the Bidder's lack of responsibility and award the Contract to another Bidder, which the Contracting Authority determines is the lowest responsive and responsible Bidder; or the Contracting Authority may re-bid the Work at its sole discretion.

6.2.3 The Contracting Authority may extend the time for complying with the conditions precedent for execution of the Contract for good cause. The extension is not a waiver of the conditions precedent for execution of the Contract.

### 6.3 Time Limits

6.3.1 The Contracting Authority's failure to award the Contract and execute the Agreement within 60 days of the bid opening invalidates the entire bid process and all Bids submitted, unless the time is extended by written consent of the apparent lowest responsive and responsible Bidder and the Contracting Authority.

6.3.1.1 If the Contracting Authority awards the Contract within 60 days of the bid opening, increases in material, labor, and subcontract costs shall be borne by the Bidder.

6.3.1.2 If failure to execute the Contract within 60 days of the bid opening is due to matters for which the State is solely responsible, the Contractor is entitled to a Change Order authorizing payment of verifiable increased costs in materials, labor, or subcontracts. This increase shall not exceed the difference in price between the successful Bidder and the price of the next lowest responsive and responsible Bidder.

6.3.1.3 If failure to execute the Contract within 60 days of the bid opening is due to matters for which the Contractor is responsible, the Contracting Authority shall not grant a request for increased costs.

### 6.4 Notice to Proceed

6.4.1 The Contracting Authority shall issue a Notice to Proceed to the Contractor, which establishes the date for commencement and the calendar days allocated for Contract Completion. Within 10 days of the date of the Notice to Proceed, or other period as mutually agreed by the Contractor and the Contracting Authority, the Contractor shall furnish the following submittals to the A/E:

6.4.1.1 Schedule of Values;

6.4.1.2 preliminary schedule of Shop Drawings and other Submittals;

6.4.1.3 Subcontractor and Material Supplier Declaration form, with completed Bidder Affirmation and Disclosure forms acknowledging that the Contractor affirms, understands, and will abide by the requirements of Executive Order 2011-12K for Subcontractors that were not identified in the Bid Form;

6.4.1.4 qualifications of proposed project manager(s) and superintendent(s) and a comprehensive resume of each; and

6.4.1.5 evidence that an authorization agreement for automatic deposit of state warrants has been submitted to Ohio Shared Services using the electronic funds transfer form provided on the Internet at <http://ohiosharedservices.ohio.gov/Vendors.aspx?Page=2>.

### 6.5 Prevailing Wage Rates

6.5.1 The Bidder shall base its Bid upon the prevailing rates of wages as ascertained by the Ohio Department of Commerce, Wage and Hour Bureau for the Project as provided in ORC Sections 4115.03 through 4115.14. Refer to Document 00 73 43 - "Wage Rate Requirements" for related information and the Project's prevailing rates of wages with an appropriate ratio of registered apprentices.

6.5.2 The Bidder shall not be entitled to an increase in the Contract Sum on account of an increase in prevailing wage rates, except as otherwise provided by Applicable Law. The Bidder is responsible for compliance of its Subcontractors with prevailing wage requirements.

6.5.3 Within 10 days of the date of the Notice to Proceed, the Contractor shall provide the Contracting Authority's Prevailing Wage Coordinator with a schedule of dates during the term of the Contract when the Contractor shall pay wages to its employees for the Project.

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END OF DOCUMENT

# Document 00 41 13 - Bid Form (General Contract / Electronic Bid)

## State of Ohio Standard Requirements for Public Facility Construction

THIS SAMPLE BID FORM IS PROVIDED WITH THE PROJECT MANUAL AS A PLACEHOLDER ONLY – SUBMIT YOUR BID USING THE ELECTRONIC BID FORM ON [HTTPS://BIDEXPRESS.COM](https://bidexpress.com)

Develop this sample Bid Form in consultation with the Contracting Authority and Owner. Before issuing, modify the document per the instructions within the shaded boxes and delete the instructions. The Project number and name in the headers may be edited. Once the date of the first newspaper advertisement has been determined, submit the edited Bid Form along with the Public Bid Advertisement and Solicitation to the Project Coordinator.

■ General Info		Alt Total:	Bid Total:
<b>Deadline</b> 07/18/2016 2:00 PM	<b>Description</b> IRJCF Restroom & Laundry Room Renovations		
<b>Advertised</b> 06/30/2016 – 07/17/2016			
<b>Number</b> DYS-140117			
<b>Business Name</b> State of Ohio, Department of Youth Services			

■ Procurement Documents

«insert Public Bid Advertisement file name»  
→ Public Bid Advertisement

«insert Solicitation file name»  
→ Notice to Bidders

«insert Project Manual file name»  
→ Procurement & Contracting Requirements and Specifications

«insert Drawings file name»  
→ Plans, elevations, sections, details, and schedules

«4» Attachments

■ Contract Times and Addenda

Contract Times

The time for Substantial Completion of all Work is 270 consecutive days from the Notice to Proceed.

Acknowledgement of receipt of Addenda

Date Addendum #1 Received	Date Addendum #2 Received	Date Addendum #3 Received	Date Addendum #4 Received
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Revise this Bid Form to be Project-specific, the items listed below and their titles; approved Alternates, their numbers and titles. List each approved Allowance and Unit Price.



Item	Description	Quantity	Unit Price*	Unit of Measure	Extension
! Component is not included in bid total.					
«5» Items					Total:

■ Base Bid (General Contract)					
Item	Description		Base Bid Amount*	Extension	
Base Bid	All Labor and Materials (include Allowances and Unit Price Extensions above)		_____		
1 Item					Total:

*Alternates require approval of the Contracting Authority. Duplicate lines for additional Alternates. Delete lines for unused Alternates. If no Alternates are bid, edit the instructions for Alternates above and delete the entire Alternates block below.*

■ Alternates (General Contract)						
Item	Description		Alternate Amount*	Extension		
! Alternate: Owner-agency may award independently from entire bid.						
! Alternates are not included in bid total.						
«5» Items					Alternate Total:	Total:

**■ Bidder Affirmation and Disclosure**

The Bidder acknowledges that by submitting its Bid, the Bidder affirms, understands, and will abide by the requirements of Executive Order 2011-12K. If awarded a Contract, the Bidder will become the Contractor and affirms that both the Contractor and its Subcontractors shall perform no services requested under this Contract outside of the United States.

The Bidder shall provide the locations where services under this Contract will be performed in the spaces provided below or by attachment. Failure to provide this information as part of its Bid may cause the Bidder to be deemed non-responsive and no further consideration will be given to its Bid. If the Bidder will not be using Subcontractors, indicate "Not Applicable" in the appropriate spaces.

1. Principal business location of Contractor \_\_\_\_\_

<b>Address*</b>	<b>City*</b>	<b>State*</b>	<b>Zip*</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>2. Locations where services will be performed by Contractor and Subcontractor (Project Sites)</b>			
<b>Address*</b>	<b>City*</b>	<b>State*</b>	<b>Zip*</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>3. Location where state data will be accessed, tested, maintained, or backed-up by Contractor</b>			
<b>Address*</b>	<b>City*</b>	<b>State*</b>	<b>Zip*</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>Locations where state data will be accessed, tested, maintained, or backed-up by Subcontractors if known at time of Bid deadline</b>			
<b>Address</b>	<b>City</b>	<b>State</b>	<b>Zip</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**EDGE Program Commitment to Participate**

**Option A**

The Bidder commits to meet or exceed the advertised EDGE Participation Goal of the Contract award amount, calculated as a portion of the Base Bid plus all accepted Alternates, by using EDGE-certified Business(es).

The Bidder agrees that if selected for consideration of the Contract, it shall provide (if not provided with the Bidder's Bid) to the Contracting Authority, at the location required and within 3 business days after receiving notice from the Contracting Authority, its fully-completed Bidder's Qualification Form, including an EDGE Affidavit form for each EDGE-certified Business proposed for use by the Bidder if awarded the Contract for this Project.

**Option B (indicate percentage of participation below)**

The Bidder declares that it does not meet the advertised EDGE Participation Goal percentage, but, if awarded the Contract for this Project, commits to provide the percentage of the Contract award amount, indicated above, calculated as a portion of the Base Bid plus all accepted Alternates, by using EDGE-certified Business(es).

The Bidder acknowledges it understands the requirement for it to provide and agrees to provide to the Contracting Authority, if selected for consideration of the Contract, within 3 business days after notice from the Contracting Authority, a detailed Demonstration of Good Faith form describing its efforts undertaken prior to submitting its Bid to meet the advertised EDGE Participation Goal percentage for the Contract for this Project.

The Bidder commits to provide to the Contracting Authority at the location required, and within 3 days after receiving notice from the Contracting Authority, its fully-completed Bidder's Qualifications Form, including an EDGE Affidavit form for each EDGE-certified Business proposed for use by the Bidder if awarded the Contract for this Project.

**Option C**

The Bidder declares that the Bidder is an EDGE-certified Business and that if awarded this Contract, the EDGE Participation percentage will be 100 percent of the Contract award amount.

**Select EDGE option above\***

Choices...

**If option B selected, enter percentage**

Select the appropriate Certifications block below by determining the Prevailing Wage requirements for the Project, then delete the unused blocks.

#### ■ Certifications (State Prevailing Wages)

1. The Bidder has read and understands the proposed Contract Documents and agrees to comply with all requirements of the proposed Contract Documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder, which might indicate a contrary intention.
2. The Bidder represents that the Bid is based upon the Basis of Design and Acceptable Components specified by the proposed Contract Documents.
3. The Bidder has visited the Site, become familiar with local conditions, and has correlated personal observations about the requirements of the proposed Contract Documents. The Bidder has no outstanding questions regarding the interpretation or clarification of the proposed Contract Documents.
4. The Bidder understands that the execution of the Project will require sequential, coordinated, and interrelated operations, which may involve interference, disruption, hindrance, or delay in the progress of the Bidder's Work. The Bidder agrees that the Contract Sum, as amended from time to time, shall cover all amounts due from the State resulting from interference, disruption, hindrance, or delay that is not caused by the State or its agents and employees. The Bidder agrees that any such interference, disruption, hindrance, or delay is within the contemplation of the Bidder and the State and that the Contractor's sole remedy from the State for any such interference, disruption, hindrance, or delay shall be an extension of time in accordance with the proposed Contract Documents.
5. During the performance of the Contract, the Bidder agrees to comply with Ohio Administrative Code ("OAC") Chapters 123:2-3 through 123:2-9 and agrees to incorporate the monthly reporting provisions of OAC Section 123:2-9-01 into all subcontracts on the Project, regardless of tier. The Bidder understands the State's Equal Opportunity Coordinator or the Contracting Authority may conduct pre-award and post-award compliance reviews to determine if the Bidder maintains nondiscriminatory employment practices, maintains an affirmative action program, and is exerting good faith efforts to accomplish the goals of the affirmative action program. For a full statement of the rules regarding Equal Employment Opportunity in the Construction Industry, see OAC Chapters 123:2-1 through 123:2-9.
6. The Bidder and each Person submitting a Bid on behalf of the Bidder certifies, and in the case of a Bid by a joint venture each member thereof certifies as to such member's entity, under penalty of perjury, that to the best of the undersigned's knowledge and belief: (a) the Base Bid, any Unit Prices, and any Alternate bid in the Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition as to any matter relating to such Base Bid, Unit Prices or Alternate bid with any other Bidder; (b) unless otherwise required by law, the Base Bid, any Unit Prices and any Alternate bid in the Bid have not been knowingly disclosed by the Bidder and shall not knowingly be disclosed by the Bidder prior to the bid opening, directly or indirectly, to any other Bidder who would have any interest in the Base Bid, Unit Prices, or Alternate bid; (c) no attempt has been made or shall be made by the Bidder to induce any other Person to submit or not to submit a Bid for the purpose of restricting competition.
7. The Bidder shall execute the Agreement with the Contracting Authority, if a Contract is awarded on the basis of this Bid, and if the Bidder does not execute the Agreement for any reason, other than as authorized by law, the Bidder and the Bidder's Surety are liable to the State as provided in Article 5 of the Instructions to Bidders.
8. The Bidder certifies that the upon the award of a Contract, as the Contractor it shall make a good faith effort to ensure that all of the Contractor's employees, while working on the Site, shall not purchase, transfer, use, or possess illegal drugs or alcohol or abuse prescription drugs in any way.
9. The Bidder acknowledges that it read all of the Instructions to Bidders, and in particular, Section 2.10 - Submittals With Bid Form, and by submitting its Bid certifies that it has read the Instructions to Bidders and it understands and agrees to the terms and conditions stated in them.
10. The Bidder agrees to furnish any information requested by the Contracting Authority or the Architect/Engineer to evaluate the responsibility of the Bidder.
11. The Bidder agrees to furnish the submittals required by Section 6.1 of the Instructions to Bidders for execution of the Agreement within 10 days of the date of the Notice of Intent to Award.
12. When the Bidder is a corporation, partnership or sole proprietorship, an officer, partner or principal of the Bidder, as applicable, shall enter the legal name of the Bidder and the name of the officer, partner or principal of the Bidder (in lieu of signing the Bid Form) in the data fields provided.
13. When the Bidder is a joint venture, an officer, partner or principal, as applicable, of each member of the joint venture shall enter the legal name of the applicable member and the name of the officer, partner or principal (in lieu of signing the Bid Form) in the data fields provided.
14. The Bidder understands that the Contract is subject to all the provisions, duties, obligations, remedies and penalties of Ohio Revised Code Chapter 4115 and that the Bidder shall pay any wage increase in the locality during the term of the Contract.
15. The Bidder represents that the individual that is submitting and digitally signing the electronic Bid is legally authorized to do so.
16. Bidder acknowledges that by the act of submitting an electronic Bid that it is digitally signing the actual Bid, which shall serve as the Bidder's authorization for the further consideration and activity in the bidding and contract process.



The Bidder hereby acknowledges that the above representations in this Bid are material and not mere recitals.\*

## ■ Certifications (Non-Prevailing Wage)

1. The Bidder has read and understands the proposed Contract Documents and agrees to comply with all requirements of the proposed Contract Documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder, which might indicate a contrary intention.
2. The Bidder represents that the Bid is based upon the Basis of Design and Acceptable Components specified by the proposed Contract Documents.
3. The Bidder has visited the Site, become familiar with local conditions, and has correlated personal observations about the requirements of the proposed Contract Documents. The Bidder has no outstanding questions regarding the interpretation or clarification of the proposed Contract Documents.
4. The Bidder understands that the execution of the Project will require sequential, coordinated, and interrelated operations, which may involve interference, disruption, hindrance, or delay in the progress of the Bidder's Work. The Bidder agrees that the Contract Sum, as amended from time to time, shall cover all amounts due from the State resulting from interference, disruption, hindrance, or delay that is not caused by the State or its agents and employees. The Bidder agrees that any such interference, disruption, hindrance, or delay is within the contemplation of the Bidder and the State and that the Contractor's sole remedy from the State for any such interference, disruption, hindrance, or delay shall be an extension of time in accordance with the proposed Contract Documents.
5. During the performance of the Contract, the Bidder agrees to comply with Ohio Administrative Code ("OAC") Chapters 123:2-3 through 123:2-9 and agrees to incorporate the monthly reporting provisions of OAC Section 123:2-9-01 into all subcontracts on the Project, regardless of tier. The Bidder understands the State's Equal Opportunity Coordinator or the Contracting Authority may conduct pre-award and post-award compliance reviews to determine if the Bidder maintains nondiscriminatory employment practices, maintains an affirmative action program, and is exerting good faith efforts to accomplish the goals of the affirmative action program. For a full statement of the rules regarding Equal Employment Opportunity in the Construction Industry, see OAC Chapters 123:2-1 through 123:2-9.
6. The Bidder and each Person submitting a Bid on behalf of the Bidder certifies, and in the case of a Bid by a joint venture each member thereof certifies as to such member's entity, under penalty of perjury, that to the best of the undersigned's knowledge and belief: (a) the Base Bid, any Unit Prices, and any Alternate bid in the Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition as to any matter relating to such Base Bid, Unit Prices or Alternate bid with any other Bidder; (b) unless otherwise required by law, the Base Bid, any Unit Prices and any Alternate bid in the Bid have not been knowingly disclosed by the Bidder and shall not knowingly be disclosed by the Bidder prior to the bid opening, directly or indirectly, to any other Bidder who would have any interest in the Base Bid, Unit Prices, or Alternate bid; (c) no attempt has been made or shall be made by the Bidder to induce any other Person to submit or not to submit a Bid for the purpose of restricting competition.
7. The Bidder shall execute the Agreement with the Contracting Authority, if a Contract is awarded on the basis of this Bid, and if the Bidder does not execute the Agreement for any reason, other than as authorized by law, the Bidder and the Bidder's Surety are liable to the State as provided in Article 5 of the Instructions to Bidders.
8. The Bidder certifies that the upon the award of a Contract, as the Contractor it shall make a good faith effort to ensure that all of the Contractor's employees, while working on the Site, shall not purchase, transfer, use, or possess illegal drugs or alcohol or abuse prescription drugs in any way.
9. The Bidder acknowledges that it read all of the Instructions to Bidders, and in particular, Section 2.10 - Submittals With Bid Form, and by submitting its Bid certifies that it has read the Instructions to Bidders and it understands and agrees to the terms and conditions stated in them.
10. The Bidder agrees to furnish any information requested by the Contracting Authority or the Architect/Engineer to evaluate the responsibility of the Bidder.
11. The Bidder agrees to furnish the submittals required by Section 6.1 of the Instructions to Bidders for execution of the Agreement within 10 days of the date of the Notice of Intent to Award.
12. When the Bidder is a corporation, partnership or sole proprietorship, an officer, partner or principal of the Bidder, as applicable, shall enter the legal name of the Bidder and the name of the officer, partner or principal of the Bidder (in lieu of signing the Bid Form) in the data fields provided.
13. When the Bidder is a joint venture, an officer, partner or principal, as applicable, of each member of the joint venture shall enter the legal name of the applicable member and the name of the officer, partner or principal (in lieu of signing the Bid Form) in the data fields provided.
14. The Bidder represents that the individual that is submitting and digitally signing the electronic Bid is legally authorized to do so.
14. Bidder acknowledges that by the act of submitting an electronic Bid that it is digitally signing the actual Bid, which shall serve as the Bidder's authorization for the further consideration and activity in the bidding and contract process.



The Bidder hereby acknowledges that the above representations in this Bid are material and not mere recitals.\*

## ■ Certifications (Federal Prevailing Wages)

1. The Bidder has read and understands the proposed Contract Documents and agrees to comply with all requirements of the proposed Contract Documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder, which might indicate a contrary intention.
2. The Bidder represents that the Bid is based upon the Basis of Design and Acceptable Components specified by the proposed Contract Documents.
3. The Bidder has visited the Site, become familiar with local conditions, and has correlated personal observations about the requirements of the proposed Contract Documents. The Bidder has no outstanding questions regarding the interpretation or clarification of the proposed Contract Documents.
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5. During the performance of the Contract, the Bidder agrees to comply with Ohio Administrative Code ("OAC") Chapters 123:2-3 through 123:2-9 and agrees to incorporate the monthly reporting provisions of OAC Section 123:2-9-01 into all subcontracts on the Project, regardless of tier. The Bidder understands the State's Equal Opportunity Coordinator or the Contracting Authority may conduct pre-award and post-award compliance reviews to determine if the Bidder maintains nondiscriminatory employment practices, maintains an affirmative action program, and is exerting good faith efforts to accomplish the goals of the affirmative action program. For a full statement of the rules regarding Equal Employment Opportunity in the Construction Industry, see OAC Chapters 123:2-1 through 123:2-9.
6. The Bidder and each Person submitting a Bid on behalf of the Bidder certifies, and in the case of a Bid by a joint venture each member thereof certifies as to such member's entity, under penalty of perjury, that to the best of the undersigned's knowledge and belief: (a) the Base Bid, any Unit Prices, and any Alternate bid in the Bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition as to any matter relating to such Base Bid, Unit Prices or Alternate bid with any other Bidder; (b) unless otherwise required by law, the Base Bid, any Unit Prices and any Alternate bid in the Bid have not been knowingly disclosed by the Bidder and shall not knowingly be disclosed by the Bidder prior to the bid opening, directly or indirectly, to any other Bidder who would have any interest in the Base Bid, Unit Prices, or Alternate bid; (c) no attempt has been made or shall be made by the Bidder to induce any other Person to submit or not to submit a Bid for the purpose of restricting competition.
7. The Bidder shall execute the Agreement with the Contracting Authority, if a Contract is awarded on the basis of this Bid, and if the Bidder does not execute the Agreement for any reason, other than as authorized by law, the Bidder and the Bidder's Surety are liable to the State as provided in Article 5 of the Instructions to Bidders.
8. The Bidder certifies that the upon the award of a Contract, as the Contractor it shall make a good faith effort to ensure that all of the Contractor's employees, while working on the Site, shall not purchase, transfer, use, or possess illegal drugs or alcohol or abuse prescription drugs in any way.
9. The Bidder acknowledges that it read all of the Instructions to Bidders, and in particular, Section 2.10 - Submittals With Bid Form, and by submitting its Bid certifies that it has read the Instructions to Bidders and it understands and agrees to the terms and conditions stated in them.
10. The Bidder agrees to furnish any information requested by the Contracting Authority or the Architect/Engineer to evaluate the responsibility of the Bidder.
11. The Bidder agrees to furnish the submittals required by Section 6.1 of the Instructions to Bidders for execution of the Agreement within 10 days of the date of the Notice of Intent to Award.
12. When the Bidder is a corporation, partnership or sole proprietorship, an officer, partner or principal of the Bidder, as applicable, shall enter the legal name of the Bidder and the name of the officer, partner or principal of the Bidder (in lieu of signing the Bid Form) in the data fields provided.
13. When the Bidder is a joint venture, an officer, partner or principal, as applicable, of each member of the joint venture shall enter the legal name of the applicable member and the name of the officer, partner or principal (in lieu of signing the Bid Form) in the data fields provided.
14. The Bidder understands that the Contract is subject to all the provisions, duties, obligations, remedies and penalties of the Davis Bacon Act, 40 United States Code Section 3141 and following, and that the Bidder shall pay any wage increase in the locality during the term of the Contract. Federal Prevailing Wage rates may be subject to change prior to the final award of this Contract.
15. The Bidder represents that the individual that is submitting and digitally signing the electronic Bid is legally authorized to do so.

16. Bidder acknowledges that by the act of submitting an electronic Bid that it is digitally signing the actual Bid, which shall serve as the Bidder's authorization for the further consideration and activity in the bidding and contract process.

The Bidder hereby acknowledges that the above representations in this Bid are material and not mere recitals.\*

**Procurement Forms**

[Document 00 43 13 - Bid Security Form](#)

→ Upload below and provide original document within 3 days

[Document 00 45 13 - Bidder's Qualifications](#)

→ Upload below or provide within 3 days of request

[Document 00 45 39 - EDGE Affidavit](#)

→ Upload below or provide within 3 days of request

3 Attachments

**Instructions for Providing Bid Submittals**

**Submission of Electronic Facsimile of Bid Guaranty with Electronic Bid**

The Bidder SHALL UPLOAD and ATTACH TO ITS BID an ELECTRONIC FACSIMILE (scanned PDF document) OF ITS BID GUARANTY, payable to the Contracting Authority, in the form of either: (1) the signed and sealed Document 00 43 13 - "Bid Security Form" contained in the Contract Documents (and provided for the Bidder's convenience in the block above) for the amount of the Base Bid plus all additive Alternates; or (2) a certified check, cashier's check, or letter of credit, for 10 percent of the Base Bid, plus all additive Alternates – a letter of credit shall expressly provide that it is revocable only by the Contracting Authority. Refer to Sections 2.10.1.1 and 5.1 of Document 00 21 13 - "Instructions to Bidders."

**Submission of Original Bid Guaranty**

In addition to the Electronic Facsimile above, the Bidder SHALL DELIVER ITS ORIGINAL UNALTERED BID GUARANTY to [«insert Project Coordinator name and address»](#) WITHIN 3 BUSINESS DAYS AFTER THE BID DEADLINE as provided in Ohio Administrative Code Section 153:1-8-01(H). THIS REQUIREMENT APPLIES TO ALL BIDDERS. Refer to Section 2.10.1.2 of the Instructions to Bidders.

**Non-responsive Bid for Failure to Submit Bid Guaranty**

Each Bidder MUST SUBMIT BOTH THE ELECTRONIC FACSIMILE AND THE ORIGINAL UNALTERED BID GUARANTY as described above. The Contracting Authority SHALL REJECT A BID AS NON-RESPONSIVE if the Bidder fails to submit BOTH elements of the Bid Guaranty. The checkboxes below are to identify that you have uploaded the other form of Bid Guaranty. DO NOT CHECK ALL BOXES. Refer to Section 2.10.1 of the Instructions to Bidders.

**Submission of Bidder's Qualifications and EDGE Affidavit**

The Bidder is encouraged to submit background information with its Bid using Document 00 45 13 - "Bidder's Qualifications" and Document 00 45 39 - "EDGE Affidavit" with the EDGE-certified Business(es) the Bidder proposes to use on the Project (forms provided for the Bidder's convenience in the block above). If the Bidder does not submit the Bidder's Qualifications form and/or the EDGE Affidavit form and related information attached to the electronic Bid Form, the Bidder shall provide it within 3 days of request. Refer to Sections 2.10.3 and 3.5.4 of the Instructions to Bidders.

**Required Bid Guaranty Upload**

Name

File\*

Document 00 43 13 - Bid Security Form

[Select file...](#) no file selected

→ Upload a scan of the fully executed Bid Security Form AND submit the original document to the Contracting Authority within 3 days of the bid deadline

I am NOT enclosing this document because the [omission terms](#) have been met. (Bidder submitted a Cashier's check below)

Power of Attorney

→ Upload a scan of the fully executed Power of Attorney AND submit the original document to the Contracting Authority within 3 days of the bid deadline

Select file... no file selected

I am NOT enclosing this document because the [omission terms](#) have been met. (Bidder submitted a Cashier's check below OR included with the Bid Security Form above)

Cashier's Check for 10% of the Bid

→ Upload a scan of the Cashier's Check AND submit the original check to the Contracting Authority within 3 days of the bid deadline

Select file... no file selected

I am NOT enclosing this document because the [omission terms](#) have been met. (Bidder submitted the Bid Security Form AND Power of Attorney above)

3 Required Documents

■ Bidder's Qualifications and EDGE Affidavit Upload

Name

File\*

Document 00 45 13 - Bidder's Qualifications  
→ Upload fully completed form and attachments

Select file... no file selected

I am NOT enclosing this document because the [omission terms](#) have been met. (Must be submitted to the Contracting Authority within 3 days of request)

Document 00 45 39 - EDGE Affidavit  
→ Upload a completed form for each EDGE business

Select file... no file selected

I am NOT enclosing this document because the [omission terms](#) have been met. (Must be submitted to the Contracting Authority within 3 days of request)

2 Required Documents

■ Bidder Signatory Information

Name of Bidder's Authorized Signatory\*

Title\*

Company Name\*

Mailing Address\*

Telephone Number\*

Facsimile Number

E-Mail Address\*

Where Incorporated\*

Federal Tax Identification Number\*

Date enrolled in an OBWC-approved DFSP (month/date/year)

Contact person for Contract processing\*

President or Chief Executive Officer's Name / Title\*

Joint Venture Bidder Signatory Information

Optional Component: I am NOT bidding on Joint Venture Bidder Signatory Information

**Name of Bidder's Authorized Signatory\***

**Title\***

**Company Name\***

**Mailing Address\***

**Telephone Number\***

**Facsimile Number**

**E-Mail Address\***

**Where Incorporated\***

**Federal Tax Identification Number\***

**Date enrolled in an OBWC-approved DFSP (month/date/year)**

**Contact person for Contract processing\***

**President or Chief Executive Officer's Name / Title\***

**END OF DOCUMENT**

# Document 00 43 13 - Bid Security Form

## State of Ohio Standard Requirements for Public Facility Construction

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( Form of combined Bid Guaranty and Bond prescribed by Ohio Revised Code Section 153.571 )

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned

\_\_\_\_\_, as Principal,  
at \_\_\_\_\_ (Address)  
and \_\_\_\_\_ as Surety, are hereby held  
and firmly bound unto the State of Ohio, as Obligee, in the penal sum of the dollar amount of the Bid submitted  
by the Principal to the Obligee on \_\_\_\_\_ (date) to undertake the Project known as:

Project Number: \_\_\_\_\_

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

Contract Description: \_\_\_\_\_  
(e.g., General Trades, Plumbing, HVAC, Electrical)

The penal sum, referred to herein, shall be the dollar amount of the Principal's Bid to the Obligee, incorporating any additive alternate Bids made by the Principal on the date referred to above to the Obligee, which are accepted by the Obligee. In no case shall the penal sum exceed the amount of dollars (\$\_\_\_\_\_). (If the preceding line is left blank, the penal sum will be the full amount of the Principal's Bid, including add alternates. Alternatively, if completed, the amount stated shall not be less than the full amount of the Bid, including Alternates, in dollars and cents. A percentage is not acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above-named Principal has submitted a Bid for the above referenced Project;

NOW, THEREFORE, if the Obligee accepts the Bid of the Principal, and the Principal fails to enter into a proper contract in accordance with the Contract bid, Plans, Specifications, details and bills of material; and in the event the Principal pays to the Obligee the difference, not to exceed ten percent of the penal sum hereof between the amount specified in the Bid and such larger amount for which the Obligee may in good faith contract with the Bidder determined by the Obligee to be the next lowest responsive and responsible to perform the Work covered by the Bid; or in the event the Obligee does not award the Contract to such next lowest responsive and responsible Bidder and resubmits the Project for bidding, the Principal pays to the Obligee the difference not to exceed ten percent of the penal sum hereof between the amount specified in the Bid, or the costs, in connection with the resubmission, of printing new Contract Documents, required advertising and printing and mailing notices to prospective Bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect. If the Obligee accepts the Bid of the Principal, and the Principal, within 10 days after the awarding of the Contract, enters into a proper Contract and executes the Contract Form in accordance with the Contract Documents, including without limitation the Bid, Plans, Specifications, details, and bills of material, which said Contract is made a part of this Bond the same as though set forth herein; and

NOW ALSO, IF THE SAID Principal shall well and faithfully perform each and every condition of such Contract; and indemnify the Obligee against all damage suffered by failure to perform such Contract according to the provisions thereof and in accordance with the Contract Documents, including without limitation Plans, Specifications, details, and bills of material therefore; and shall pay all lawful claims of Subcontractors, Material Suppliers and laborers for labor performed and materials furnished in the carrying forward, performing or completing of said Contract; we, agreeing and assenting that this undertaking shall be for the benefit of any

Subcontractor, Material Suppliers or laborer having a just claim, as well as for the Obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions or additions, in or to the terms of said Contract, the Work thereunder or the Contract Documents, including without limitation the Plans and Specifications, therefore, shall in any way affect the obligations of said Surety on its bond, and it does hereby waive notice of any such modifications, omissions or additions in or to the terms of the Contract, the Work, or the Contract Documents, including without limitation the Plans and Specifications.

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

**PRINCIPAL:**

x \_\_\_\_\_

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

Title: \_\_\_\_\_

**SURETY:**

x \_\_\_\_\_

By: \_\_\_\_\_  
Attorney-in-Fact

**SURETY INFORMATION:**

\_\_\_\_\_  
Street

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Telephone Number

**SURETY AGENT'S INFORMATION:**

\_\_\_\_\_  
Agency Name

\_\_\_\_\_  
Street

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Telephone Number

**END OF DOCUMENT**

**Document 00 45 13 - Bidder's Qualifications**  
**State of Ohio Standard Requirements for Public Facility Construction**

---

**Project Number:** \_\_\_\_\_

**Project Name:** \_\_\_\_\_

**1. Company Name:** \_\_\_\_\_

Physical Address: \_\_\_\_\_  
Street, Building, Unit

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

Mailing Address (if different): \_\_\_\_\_  
P.O. Box

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

Telephone Number (w/ Area Code): ( \_\_\_\_\_ ) \_\_\_\_\_

Fax Number (w/ Area Code): ( \_\_\_\_\_ ) \_\_\_\_\_

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

**2. Overall Experience.** Indicate Bidder's overall experience performing the trades bid, including the years in business performing the trade under present and former business names.

**3. Financial.** The apparent low Bidder shall submit, upon request of the Contracting Authority, either:

- a) An annual financial statement prepared within the 12 months prior to the bid opening by an independent licensed accounting firm; and the name, address, contact person and phone number of the bank normally used by the Bidder for its primary banking; or,
- b) A financial report generated within 30 days prior to the bid opening from Standard and Poor, Dun and Bradstreet or a similar company acceptable to the Contracting Authority documenting the financial condition of the Bidder; and the name, address, contact person and phone number of the bank normally used by the Bidder for its primary banking;

**This information is not a public record under Ohio Revised Code Section 149.43; and shall remain confidential, except under proper order of a court.**



e) EPA/OSHA violations

f) Liquidated damages and Statutory Delay Forfeiture assessed

g) Drug-Free Safety Program and Drug Free Workplace Program violations

**7. Management.** Identify individuals assigned to this Project.

Principal \_\_\_\_\_ Years with firm \_\_\_\_\_ Total Exp. \_\_\_\_\_

Project Manager \_\_\_\_\_ Years with firm \_\_\_\_\_ Total Exp. \_\_\_\_\_

Field Superintendent \_\_\_\_\_ Years with firm \_\_\_\_\_ Total Exp. \_\_\_\_\_

**8. EDGE Participation.** Identify EDGE-certified Business Enterprises proposed as Subcontractors and Material Suppliers for this Project. Attach a fully completed Document 00 45 39 - "EDGE Affidavit" for each EDGE-certified Business Enterprise.

**9. Certification.** I hereby certify that the information in this entire Bidder's Qualifications form, including all attachments and referenced information, is factual and complete.

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

Authorized Official (please print or type) \_\_\_\_\_

Signature of Authorized Official \_\_\_\_\_ Date \_\_\_\_\_

END OF DOCUMENT

Document 00 45 39 - EDGE Affidavit  
State of Ohio Standard Requirements for Public Facility Construction

---

EDGE PARTICIPATION

**Certified Statement of Intent to Contract and Perform**

**Bidder:** Submit one fully completed form for each EDGE-certified Business Enterprise

**Project:** \_\_\_\_\_

**Project Name:** \_\_\_\_\_

**A. Bidder's Company Name:** \_\_\_\_\_

**B. EDGE-certified Business Enterprise information** (for project contract at ANY tier)

Mark all that apply:

Bidder     Subcontractor     Material Supplier     Professional Services     Goods/Services

EDGE Business Name: \_\_\_\_\_

EDGE Business Address: \_\_\_\_\_

EDGE Business Federal Tax I.D. \_\_\_\_\_ E-mail: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: (\_\_\_\_) \_\_\_\_\_

**Insert a brief description of materials, supplies, labor, etc. to be provided** (may use industry codes)

\_\_\_\_\_  
\_\_\_\_\_

**C. Certification of Intent**

By signing below, Bidder certifies that it intends to contract with the certified EDGE-certified Business Enterprise for the portion of the Contract described above related to the Contract for this Project and for the estimated cost shown below. By signing below, the certified EDGE-certified Business Enterprise certifies that it intends to contract with the Bidder and intends to provide the portion of the Contract described above related to the Contract for this Project for the *estimated cost* of:

\_\_\_\_\_ and \_\_\_\_\_ /100 dollars ( \$\_\_\_\_\_ ).

In the event the named Bidder is NOT the successful Bidder, this Statement shall be null and void.

***EDGE-certified Business Enterprise***

\_\_\_\_\_  
Authorized representative name, title (print or type)

\_\_\_\_\_  
Signature of authorized representative

***Bidder***

\_\_\_\_\_  
Authorized representative name, title (print or type)

\_\_\_\_\_  
Signature of authorized representative

END OF DOCUMENT

# Document 00 52 00 - Agreement Form

## State of Ohio Standard Requirements for Public Facility Construction

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This Agreement is made as of the date set forth below between the State of Ohio, acting by and through the Contracting Authority, and the Contractor in connection with the Project.

Project Number: Project DYS-140117  
Project Name: Restroom and Laundry Room Renovations  
Indian River Juvenile Correctional Facility  
Site Address: 2775 Indian River Road  
Massillon, Ohio 44646

**Owner:** Ohio Department of Youth Services  
Owner's Representative: Vince Corcoran, Administrator  
Address: 30 W. Spring St., 5<sup>th</sup> Floor  
Columbus, Ohio 43215

**Contracting Authority:** Ohio Department of Youth Services  
Project Manager: Vince Corcoran, Administrator  
Address: 30 W. Spring St., 5<sup>th</sup> Floor  
Columbus, Ohio 43215

**Contractor:** <insert name>  
Contractor's Principal Contact: <insert name>  
Address: <insert street address>  
<insert city, state zip code>

**Architect/Engineer ("A/E"):** Karl R. Rohrer Associates, Inc.  
A/E's Principal Contact: John Sweany  
Address: 1133 Portage Trail Ext., Suite B  
Akron, Ohio 44313-8283

### ARTICLE 1 - SCOPE OF WORK; EDGE COMMITMENT

1.1 The Contractor shall perform and provide all of the Work described in the Contract.

1.2 The Contractor shall contract with EDGE-certified Business Enterprise(s) for no less than <insert Contractor's EDGE commitment> percent of the Contract Sum.

### ARTICLE 2 - COMPENSATION

2.1 The Owner shall pay the Contractor the Contract Sum for the Contractor's proper, timely, and complete performance of the Contract. The Contract Sum is \$<insert amount>, subject to additions and deductions as provided in the Contract Documents. The Contract Sum is comprised of the following:

2.1.1 Base Bid: ..... \$<Insert Base Bid Amount>

**ARTICLE 3 - CONTRACT TIMES**

3.1 The Contract Times are the periods of time established in the following table for the achievement of the associated Milestones:

<b>Construction Milestone</b>	<b>Contract Time</b>
«insert description of interim Milestone – add more rows if necessary – delete if none»	«insert number of calendar days» days
Final Acceptance of all Work	«insert number of calendar days» days

**ARTICLE 4 - KEY PERSONNEL**

4.1 The Contractor’s Key Personnel for the Project are:

- 4.1.1 «insert name», Project Manager;
- 4.1.2 «insert name», Lead Scheduling Engineer;
- 4.1.3 «insert name», General Superintendent.

**ARTICLE 5 - GENERAL PROVISIONS**

5.1 Effectiveness.

- 5.1.1 It is expressly understood by the Contractor that none of the rights, duties, and obligations described in the Contract Documents shall be valid and enforceable unless the Director of the Office of Budget and Management first certifies that there is a balance in the Owner's appropriation not already encumbered to pay existing obligations.
- 5.1.2 Subject to Section 5.1.1, the Contract shall become binding and effective upon execution by the Contracting Authority, the Owner, and the Contractor, and Attorney General approval.
- 5.1.3 This Agreement may be executed in several counterparts, each of which shall constitute a complete original Agreement, which may be introduced in evidence or used for any other purpose without production of any other counterparts.

5.2 Representations.

- 5.2.1 The Contractor represents and warrants that it is not subject to an unresolved finding for recovery under Ohio Revised Code (“ORC”) Section 9.24. If this representation and warranty is found to be false, the Contract is void, and the Contractor shall immediately repay to the Owner any funds paid under this Contract.
- 5.2.2 The Contractor hereby certifies that neither the Contractor nor any of the Contractor’s partners, officers, directors, shareholders nor the spouses of any such person have made contributions in excess of the limitations specified in ORC Section 3517.13.
- 5.2.3 The Contractor, by signature on this Agreement, certifies that it is currently in compliance with, and will continue to adhere to, the requirements of Ohio ethics laws and conflict of interest laws and will take no action inconsistent with those laws.
- 5.2.4 The Contractor affirms to have read and understands Executive Order 2011-12K and shall abide by those requirements in the performance of this Contract. Notwithstanding any other terms of this

Contract, the State reserves the right to recover any funds paid for services the Contractor performs outside of the United States for which it did not receive a waiver. The State does not waive any other rights and remedies provided the State in this Contract.

**TREASURER'S CERTIFICATION**

This signature certifies the amount required to meet the obligation in the fiscal year in which this Agreement is made has been lawfully appropriated for such purpose and is in the treasury or in process of collection to the credit of an appropriate fund free from any previous encumbrances.

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Printed Name*  
Chief Financial Officer

**SIGNATURES**

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date set forth below:

**«INSERT CONTRACTOR'S NAME»**

**STATE OF OHIO**

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Title*

**«INSERT OWNER'S NAME»**  
Owner's Concurrence

**OHIO ATTORNEY GENERAL**  
Approval as to Form

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Date*

**END OF DOCUMENT**

# Document 00 52 14 - State of Ohio Subcontract Form

## State of Ohio Standard Requirements for Public Facility Construction

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This Agreement is made as of the date set forth below between the Contractor and the Subcontractor in connection with the Project.

**Project Number:** DYS-140117  
**Project Name:** Indian River Correctional Facility  
Restroom and laundry Room Renovations  
Site Address: 2775 Indian River Road, S.W.  
Massillon, OH. 44646

**Contractor:** <insert name>  
Contractor's Principal Contact: <insert name>  
Address: <insert street address>  
<insert city, state zip code>

**Subcontractor:** <insert name>  
Subcontractor's Principal Contact: <insert name>  
Address: <insert street address>  
<insert city, state zip code>

**Public Authority:** <insert name>  
Public Authority Contact: <insert name>  
Address: <insert street address>  
<insert city, state zip code>

### ARTICLE 1 - NATURE OF SUBCONTRACT

1.1 The Subcontractor shall perform the entire Subcontract Work as specified in Exhibit «N» and described in the Contract Documents for the Project.

### ARTICLE 2 - COMPENSATION

2.1 The Contractor agrees to pay for the performance of this Subcontract, subject to additions and deductions as provided in the Contract Documents, the Subcontract Sum of <insert Subcontract Sum>, comprised of the following:

<insert Subcontract Sum component> .....\$<insert amount>  
<insert Subcontract Sum component> .....\$<insert amount>  
<insert Subcontract Sum component> .....\$<insert amount>  
<insert Subcontract Sum component> .....\$<insert amount>

### ARTICLE 3 - TIME OF PERFORMANCE

3.1 Time is of the essence. The Subcontractor shall diligently prosecute and complete all Subcontract Work in accordance with the construction progress schedule agreed between the parties.

### ARTICLE 4 - CONTRACT DOCUMENTS

4.1 To the extent that the contract between the Public Authority and the Contractor applies to the Subcontract Work:

4.1.1 The Contractor and the Subcontractor agree to be mutually bound by the terms of the Contract Documents;

4.1.2 The Contractor assumes toward the Subcontractor the rights, remedies, obligations, and responsibilities that the Public Authority has and assumes toward the Contractor;

**4.1.3** The Subcontractor assumes toward the Contractor the rights, remedies, obligations, and responsibilities that the Contractor assumes toward the Public Authority; and

**4.1.4** The Subcontractor agrees to perform its portion of the Work in accordance with the Contract Documents.

**4.2** The Subcontract and any modifications, amendments, or alterations thereto shall be governed, construed, and enforced by and under the laws of the State of Ohio.

**4.3** If any term or provision of the Subcontract, or the application thereof to any Person or circumstance, is finally determined, to be invalid or unenforceable by a court of competent jurisdiction, the remainder of the Subcontract or the application of such term or provision to other Persons or circumstances, shall not be affected thereby, and each term and provision of the Subcontract shall be valid and enforced to the fullest extent permitted by law.

**4.4** The Subcontract shall be binding on the Contractor and Subcontractor, their successors and assigns, in respect to all respective covenants and obligations contained in the Contract Documents, but the Subcontractor may not assign the Subcontract without the prior written consent of the Contractor and the Public Authority.

## **ARTICLE 5 - EFFECTIVENESS**

**5.1** The Subcontract shall become binding and effective upon execution by the Contractor.

**5.2** This Subcontract has been executed in several counterparts, each of which shall constitute a complete original Subcontract, which may be introduced in evidence or used for any other purpose without production of any other counterparts.

**5.3** Any signatory may deliver a copy of its counterpart signature page to this Subcontract via fax or e-mail. Each signatory shall be entitled to rely upon a signature of any other signatory delivered in such a manner as if such signature were an original.

## **ARTICLE 6 - REPRESENTATIONS**

**6.1 Contingent Assignment.** The Contractor's contingent assignment of this Subcontract to the Public Authority, as provided in the Contract, is effective after termination of the Contractor by the Public Authority and the Public Authority's acceptance of the assignment in writing to the Subcontractor. The Subcontractor consents to the assignment and shall be bound at the same price and terms as in the Subcontract to the Public Authority. Unless the Public Authority takes assignment of the Subcontract, the Subcontractor will not have any contractual rights against the Public Authority.

**6.2 Intended Third-Party Beneficiary.** The Public Authority is an intended third party beneficiary of the Subcontract, entitled to enforce any rights thereunder for its benefit.

**6.3 Insurance.** The Subcontractor shall maintain insurance in accordance with the Contract Documents. Exhibit <N> sets forth the minimum limits of liability for the insurance required in the Contract Documents.

**6.4 Right to Audit.** The Subcontractor agrees that the Public Authority or any agents designated by the Public Authority have access to and the right to audit and the right to copy at the Public Authority's cost all of the Subcontractor's books, records, contracts, correspondence, instructions, drawings, receipts, vouchers, purchase orders, and memoranda relating to the Work for a period of not less than 3 years following completion of the Work consistent with Ohio Revised Code ("ORC") Section 149.43 with regard to the Public Authority's obligation to maintain confidentiality of trade secrets.

**6.5 Indemnity.** To the fullest extent permitted by law, the Subcontractor shall indemnify, defend, and hold harmless the Public Authority, the Contractor, their consultants and employees from all claims and expenses for bodily injury and property damage other than to the Work itself that may arise from the performance of the Subcontract Work, including reasonable attorneys' fees, costs and expenses, but only to the extent caused by the negligent acts or omissions of the Subcontractor or a person or entity for whom the Subcontractor may be liable. This Subcontract does not require a Subcontractor to waive its immunity under the Workers Compensation laws of Ohio from claims brought against the Subcontractor by the Subcontractor's employees.

**6.6 Prompt Pay.** The Contractor shall at a minimum make payments to the Subcontractor in accordance with Applicable Law, including ORC Section 4113.61. Progress payments to the Subcontractor for satisfactory performance of Subcontract Work shall be made no later than 10 days after receipt by the Contractor of payment from the Public Authority for Subcontract Work.

**6.7 Retainage.** Subcontractor retainage shall be at a rate equal to the percentage retained from the Contractor’s payment by the Public Authority for the Subcontract Work, unless a lesser percentage is otherwise specified.

**6.8 Warranty.** The Subcontractor fully warrants, for the benefit of the Public Authority, that all materials and equipment shall be new unless otherwise specified, of good quality, in conformance with the Contract Documents and free from defective workmanship or materials.

**6.9 Non-Waiver of Lien Rights or Payment Bond Rights.** This Subcontract shall not prohibit a Subcontractor from exercising its rights under ORC Chapter 1311 or under any Contractor-provided payment bond.

**6.10 Non-Discrimination.** The Subcontractor agrees to fully comply with Applicable Law regarding equal opportunity, including ORC Section 153.59 and, to the extent applicable, all Executive Orders issued by the Governor of the state of Ohio.

**6.11 Dispute Resolution.** The supplemental conditions to this Subcontract shall provide for a dispute resolution process comparable to the Contract’s dispute resolution process in terms of timing, notice, substantiation, and informal dispute resolution efforts. The dispute resolution process provided in the supplemental conditions shall result in prompt access to the ultimate dispute resolution mechanism selected by the parties.

**6.12** In the event that any supplemental conditions or other Subcontract terms conflict with the **State of Ohio Subcontract Form**, the **State of Ohio Subcontract Form** takes precedence and this Subcontract shall be read and enforced to include the provisions of the **State of Ohio Subcontract Form**.

**6.13** The following exhibits are attached to and are a part of this Subcontract:

- 6.13.1 Exhibit A:**
- 6.13.2 Exhibit B:**
- 6.13.3 Exhibit C:**
- 6.13.4 Exhibit D:**

**SIGNATURES**

IN WITNESS WHEREOF, the parties have executed this Subcontract Form.

«INSERT SUBCONTRACTOR’S NAME»

«INSERT CONTRACTOR’S NAME»

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Date*

**END OF DOCUMENT**

**Document 00 61 13 - Performance and Payment Bond Form**  
**State of Ohio Standard Requirements for Public Facility Construction**

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( Form of Bond prescribed by Ohio Revised Code Section 153.57 - Not to be used as Bid Guaranty )

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned \_\_\_\_\_, as Principal,  
at \_\_\_\_\_ (Address)  
and \_\_\_\_\_ as Surety, are hereby held  
and firmly bound unto the State of Ohio, as Obligee, in the penal sum of \_\_\_\_\_ dollars,  
for the payment of which well and truly to be made, we jointly and severally bind ourselves, our heirs, executors,  
administrators, successors, and assigns to undertake the Project known as:

Project Number: \_\_\_\_\_

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

Contract Description: \_\_\_\_\_  
(e.g., General Trades, Plumbing, HVAC, Electrical)

SIGNED AND SEALED this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above-named  
Principal did on the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, enter into a Contract with the  
State of Ohio, which said Contract is made a part of this Bond the same as though set forth herein;

NOW, THEREFORE, if the above-named Principal shall well and faithfully do and perform the things  
agreed by the Obligee to be done and performed according to the terms of said Contract; and shall pay all lawful  
claims of Subcontractors, Material Suppliers, and laborers, for labor performed and materials furnished in the  
carrying forward, performing, or completing of said Contract; we agreeing and assenting that this undertaking  
shall be for the benefit of any Subcontractor, Material Supplier or laborer having a just claim as well as for the  
Obligee herein; then this obligation shall be void; otherwise the same shall remain in full force and effect; it being  
expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event  
exceed the penal amount of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the  
terms of said Contract or in or to the Plans and Specifications therefore shall in any way affect the obligations of  
said Surety on its bond, and it does hereby waive notice of any such modifications, omissions or additions in or to  
the terms of the Contract, the Work or the Contract Documents, including without limitation the Plans and  
Specifications.

PRINCIPAL:

x \_\_\_\_\_

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

Title: \_\_\_\_\_

SURETY:

x \_\_\_\_\_

By: \_\_\_\_\_  
Attorney-in-Fact

SURETY INFORMATION:

\_\_\_\_\_  
Street

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Telephone Number

SURETY AGENT'S INFORMATION:

\_\_\_\_\_  
Agency Name

\_\_\_\_\_  
Street

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
Telephone Number

END OF DOCUMENT

# Document 00 71 00 - Contracting Definitions (General Contract)

## State of Ohio Standard Requirements for Public Facility Construction

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Acceptable Component	A component listed in the Specifications after the Basis of Design Component.
Addenda or Addendum	Written or graphic instrument issued prior to the bid opening which modifies or interprets the proposed Contract Documents by additions, deletions, clarifications, or corrections. Addenda become part of the Contract Documents when the Agreement is executed.
A/E	See “Architect/Engineer”
Agreement	The form furnished by the Contracting Authority (including all of its exhibits) that, when completed and signed by the Contractor and the Contracting Authority evidences entry into the Contract.
Allowance	A sum stipulated in the Contract Documents for a defined scope of the Work that may not be completely defined at the time of bidding.
Alternate	A change in the proposed Project scope, which may include but is not limited to alternate materials or methods of construction, and an amount stated on the Bid form to be added to or deducted from the Base Bid if the corresponding Alternate is incorporated into the Contract.
Alternative Dispute Resolution	A voluntary and non-binding process for the administrative review, consideration, and attempted settlement of a dispute, without resort to judicial process, including but not limited to partnering, negotiation, mediation, impartial fact-finding, dispute review board, and mini-trials, but shall not include arbitration.
Applicable Law	All federal, state, and local codes, statutes, ordinances, and regulations that apply to the performance of the Work on the Project.
Architect/Engineer	The Person responsible for providing professional design services and construction contract administration for the Project as provided in the Contract Documents. The A/E shall be (1) a registered architect holding a license and certificate of authorization issued by the Ohio Architects Board pursuant to Ohio Revised Code (“ORC”) Chapter 4703, (2) a landscape architect holding a license and certificate of authorization issued by the Ohio Landscape Architects Board pursuant to ORC Chapter 4703, or (3) a professional engineer or professional surveyor holding a license and certificate of authorization issued by the Ohio Engineers and Surveyors Board pursuant to ORC Chapter 4733.
As-Built Documents	Documents, including, but not limited to, Drawings, Addenda, Specifications, executed Change Orders, and other elements of the Contract Documents which the Contractor annotates and otherwise modifies to indicate changes made during the construction process, the location of concealed and buried items, and other information useful to the Owner throughout the life of the completed Project.
Base Bid	The amount stated in a Bid as the sum for which the Bidder offers to perform the Work in a particular trade or other category, which is described in the Contract Documents, excluding Alternates.

<b>Basis of Design</b>	A document that records the concepts, calculations, decisions, and product selections used to meet the Owner's Project Requirements and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
<b>Basis of Design Component</b>	A component listed first in the Specifications.
<b>Bid</b>	A written proposal to perform a Contract, submitted on a completed Bid Form, accompanied by other required documents.
<b>Bidder</b>	A Person that submitted a Bid.
<b>BIM</b>	See "Building Information Model"
<b>Bid Form</b>	A form furnished by the Contracting Authority with the proposed Contract Documents that is to be completed, signed, and submitted containing the Bidder's Bid.
<b>Bid Guaranty</b>	A bid bond or other instrument of security authorized by ORC Section 153.54 submitted with the Bid to provide assurance that the Bidder will execute the Agreement.
<b>Bond</b>	A performance and payment bond in the format specified by ORC Section 153.57 submitted by the Contractor to provide assurance that the Contractor will perform the Work of the Contract, including making required payments to Subcontractors and Materials Suppliers.
<b>Building Information Model</b>	A digital representation of physical and functional characteristics of a facility; a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle, which is defined as existing from earliest conception to demolition. The term BIM may be used as a <i>noun</i> to describe a single model or multiple models used in the aggregate. The term BIM may also be used as a <i>verb</i> in the context of Building Information Modeling or Management, the process of creating, maintaining, and querying the model.
<b>Certification of Contract Completion</b>	A form used to document that the Contractor's Work is complete, and the Contractor has complied with all conditions precedent to final payment and release of retainage. This form may also be used to document partial completion.
<b>Change Directive</b>	A written document prepared by the A/E and executed by the Contracting Authority that directs a change in the Work.
<b>Change Order</b>	A document recommended by the A/E and executed by the Contracting Authority and the Contractor that modifies the Contract.
<b>Claim</b>	A demand or assertion, initiated by written notice, certified by one of the parties to the Contract seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the terms of the Contract.
<b>Claim Affidavit</b>	A sworn document used in conjunction with filing a lien, which contains a claim on the funds that are due to a Contractor, in favor of a Person supplying labor, materials, or services for the value of labor, materials, or services supplied.

<b>Commission</b>	See “Ohio Facilities Construction Commission”
<b>Commissioning Agent</b>	The Person identified by the Contracting Authority who leads, plans, schedules, and coordinates the commissioning team to implement the Commissioning Process for the Project.
<b>Commissioning Plan</b>	A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the Commissioning Process.
<b>Commissioning Process</b>	A quality-focused process for enhancing the delivery of a project. The process focuses on verifying and documenting that the facility and all of its systems are planned, designed, installed, tested, operated, and maintained to meet the Owner’s Project Requirements.
<b>Commissioning Report</b>	A document that records the activities and results of the Commissioning Process. The Commissioning Report is developed from the final Commissioning Plan with its attached appendices.
<b>Conformed Documents</b>	Contract Documents with all Addenda items and accepted Alternates incorporated by the A/E, published, and issued to a successful Bidder for its use during performance of the Contract.
<b>Construction Progress Schedule</b>	The critical path schedule for performance of the Contract; showing the time for completing the Work within the Contract Times; the planned sequence for performing the various components of the Work; the interrelationship between the activities of the Contractors, the A/E, the Contracting Authority, and the Owner; and the Contractors’ resource and cost loading information; as periodically updated during the performance of the Work.
<b>Contract</b>	The state of legal obligation entered into by the State and the Contractor, whereby they have agreed to an exchange of certain acts, materials, equipment, and services for certain monetary consideration, under all terms and conditions specified in the Contract Documents, which shall remain in full force and effect until such time as all obligations under the Contract have been lawfully and completely discharged, or the Contract is terminated under other conditions specified in the Contract Documents.
<b>Contract Completion</b>	The schedule Milestone in the progress of any Phase when the Work is completed in accordance with the terms of the Contract Documents and Contractor has satisfied all of its other obligations under the Contract Documents, including, but not limited to, (1) all governmental authorities have given final, written approval of the Work, (2) a final unconditional certificate of occupancy has been granted and issued to the Owner by the appropriate governmental authorities, (3) the Contractor’s Work is 100 percent complete, and (4) all Punch List items have been completed or corrected, and (5) the Contractor has complied with conditions precedent to final payment and release of retained funds.
<b>Contract Documents</b>	Collectively, the documents that constitute the substance of the Contract including, but not limited to, Drawings, Specifications, Addenda if any, General and Supplementary Conditions of the Contract, Bid Form, Wage Rates; and the executed Agreement, Bid Guaranty and Contract Bond, and Change Orders if any.
<b>Contractor Documents</b>	All Project-related documents, including those in electronic form, prepared by the Contractor and Subcontractors.

<b>Contract Sum</b>	The Contract Sum is the Contractor's entire compensation for the Contractor's proper, timely, and complete performance of the Work and is subject to adjustment as provided in the Contract.
<b>Contract Times</b>	The periods stipulated in the Agreement for the achievement of associated Milestones, in consecutive days, beginning and ending on the dates established by the Notice to Proceed, including adjustments authorized by executed Change Orders.
<b>Contracting Authority</b>	The party identified in the Agreement, which may be the Ohio Facilities Construction Commission; an agency of the state of Ohio; an Institution of Higher Education or division thereof; a School District Board; or the legislative body of a political subdivision.
<b>Contractor</b>	A firm, which is party to the Contract for the performance of Work on the Project in accordance with the Contract Documents.
<b>Contractor's Fee</b>	The portion of the Contract Sum attributable to the aggregate of the Contractor's profit and home-office overhead related to the Contractor's proper, timely, and complete performance of the Work.
<b>Contractor Payment Request</b>	The form furnished by the Commission that is to be used by the Contractor in requesting payments and which, when signed by the Contractor, shall serve as an affidavit that payments requested are in proportion to the Work completed as shown on the Schedule of Values.
<b>Contractor's Punch List</b>	A document prepared by the Contractor that consists of a list of items of Work to be completed or corrected by the Contractor as a condition precedent to the A/E issuing the Punch List.
<b>Coordination Drawings</b>	Drawings and electronic files prepared by the Contractor to demonstrate how multiple-system and interdisciplinary work will be coordinated. Clash reports generated by BIM authoring software may be included in the Coordination Drawing submittals if applicable.
<b>Correction Period</b>	A period of one year commencing on the date of Final Acceptance of the Work or a designated portion of the Work which the Owner has agreed to accept separately.
<b>CxA</b>	See "Commissioning Agent"
<b>Date of Commencement</b>	The date established in a Notice to Proceed issued by the Contracting Authority to the Contractor to mark the start of the Work and the beginning of the running of the Contract Times.
<b>day</b>	A calendar day of 24 hours measured from midnight to midnight, unless otherwise expressly specified to mean a business day.
<b>Defective Work</b>	Work that does not conform to the Contract Documents; or does not meet the requirements of any applicable statute, rule or regulation, inspection, reference standard, test or approval; or has been damaged prior to the A/E's recommendation of final payment, unless responsibility for the protection thereof has been expressly assumed by the Owner; or that is not free from defects in workmanship, materials or equipment during the period of any warranty or guarantee.

<b>Differing Site Condition</b>	Either (1) a subsurface or otherwise concealed physical condition encountered at the Site that differs materially from the conditions indicated in the Contract Documents or (2) an unknown physical condition of an unusual nature encountered at the Site that differs materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents.
<b>Dispute Review Board</b>	A form of Alternative Dispute Resolution that is typically comprised of three members, selected jointly by the Contractor and the Contracting Authority, to monitor the progress of construction and provide recommended resolutions to disputes that are brought before them.
<b>Drawings</b>	Graphic portions of the Contract Documents, showing the design, type of construction, location, dimension, and character of the Work to be provided by the Contractor, which generally includes plans, elevations, sections, details, schedules, diagrams, notes, and text.
<b>Enclosure, Permanent</b>	The condition in which the permanent exterior walls and roofs are in place, insulated and weathertight, and permanent windows and entrances are in place.
<b>Enclosure, Temporary</b>	The condition in which the permanent exterior walls and roofs are in place, insulated and weathertight, and windows and entrances are provided with suitable temporary enclosures.
<b>Estimated Construction Cost</b>	The sum of the Estimated Contract Cost amounts published in the Solicitation, as modified by Addenda, for a phase of the Project.
<b>Estimated Contract Cost</b>	The estimated amount for the Contract published in the Solicitation, including the Base Bid estimate and the estimates of selected Alternates, if any, as modified by Addenda.
<b>Extra Materials</b>	Materials required by the Contract Documents that are not incorporated into the Project but are given to the Owner to be used for future maintenance or repairs.
<b>Final Acceptance</b>	The Contracting Authority's acceptance of the Work performed by the Contractor after certification by the A/E of Contract Completion.
<b>Final Inspection</b>	The final review of the Work of the Contractor by the A/E to determine whether issuance of the Certificate of Contract Completion is appropriate.
<b>furnish</b>	Supply and deliver to the Site, or other specified location, ready for installation.
<b>General Conditions</b>	The State's Standard General Conditions currently in effect, which may be modified by the Commission from time to time.
<b>General Conditions Costs</b>	General Conditions Costs include only the Contractor's costs to provide the general conditions Work including without limitation the costs of all of the following Site-related items: scheduling and coordinating the Work, telephone, telephone charges, facsimile, telegrams, postage, photos, photocopying, hand tools, simple scaffolds (one level high), tool breakage, tool repairs, tool replacement, tool blades, tool bits, and pre-approved travel, lodging, and parking costs. General Conditions Costs also include (1) Bond premiums and (2) builder's risk insurance premiums if the Contractor purchases the builder's risk policy for the Project.

<b>Hazardous Materials</b>	Any material, substance, pollutant, or contaminant that is defined, regulated, referenced, or classified in the Comprehensive Environmental Response, Compensation and Liability Act, the Federal Water Pollution Control Act, the Resource Conservation and Recovery Act, the Clean Air Act, the Hazardous Materials Transportation Uniform Safety Act, the Toxic Substances Control Act, or any other Applicable Law relating to any hazardous, toxic, or dangerous waste, substance, or material. Any substance or material that, after release into the environment or upon exposure, ingestion, inhalation, or assimilation, either directly from the environment or directly by ingestion through food chains, will, or may reasonably be anticipated to, cause death, disease, behavior abnormalities, cancer or genetic abnormalities and specifically includes, but is not limited to, asbestos, polychlorinated biphenyls (“PCBs”), radioactive materials, including radon and naturally occurring radio nuclides, natural gas, natural gas liquids, liquefied natural gas, synthetic gas, oil, petroleum and petroleum-based derivatives and urea formaldehyde.
<b>Indemnified Parties</b>	The Contracting Authority, the Owner, the A/E, other Separate Consultants, and their respective officials, officers, consultants, agents, representatives, and employees, in both individual and official capacities.
<b>install</b>	Put into use or place in final position, complete and ready for intended service or use.
<b>Institutional Designee</b>	The party identified in the Agreement empowered with a level of authority similar to the Executive Director of the Commission, which may be the university architect or engineer, director of capital facilities, or an institution vice president.
<b>Institution of Higher Education</b>	Any state of Ohio university or college, community college, state of Ohio community college, technical college, university branch, community college district, technical college district, university branch district, and the applicable board of trustees or, in the case of a university branch district, any other managing authority.
<b>Liquidated Damages</b>	A sum established in the Contract Documents, pursuant to the statutory delay forfeiture authorized under ORC Section 153.19, to be paid to the Owner due to the Contractor’s failure to complete the Work within the Contract Time for achievement of Final Acceptance, or any applicable portion of the work on or prior to any Milestone date stated on the Agreement.
<b>Material Supplier</b>	A Person under a contract with the Contractor to furnish materials or supplies in furtherance of the Work, including all such Persons in any tier. The term "Material Supplier" does not include any Separate Contractor unless expressly assigned in writing to the Contractor by the Owner and accepted by the Contractor.
<b>mediation</b>	A voluntary process in which a neutral third party meets with the parties who have a disagreement or dispute and attempts to facilitate a mutually satisfactory resolution.
<b>Milestone</b>	A significant date or event in the development of the Work identified in the Contract Documents and illustrated on the Construction Progress Schedule.

<b>Modification</b>	A (1) written amendment to the Contract signed by both parties, (2) Change Order, (3) Change Directive, or (4) an order for a minor change in the Work.
<b>negotiation</b>	A form of Alternative Dispute Resolution in which all parties involved are represented by those invested with the authority to agree to a determination of an adjustment in the Contract Sum, Contract Times, or both.
<b>Notice of Commencement</b>	A notice prepared by the Contracting Authority identifying the Project, the Contractors, the Surety for each Contractor, and the name of the Contracting Authority's representative upon whom a Claim Affidavit may be served.
<b>Notice of Intent to Award</b>	A written notice provided by the Contracting Authority to the apparent successful Bidder stating that upon satisfactory compliance with all conditions precedent for execution of a Contract within the time specified, the Contracting Authority intends to execute a Contract with the Bidder.
<b>Notice to Proceed</b>	A written notice provided by the Contracting Authority authorizing the Contractor to proceed with the Work and establishing the dates for commencement and completion of the Work.
<b>OAKS Capital Improvements</b>	The State's Web-based capital program and project management information system, based on Unifier software licensed to the State by Skire, Inc., hosted on State servers.
<b>OAKS</b>	See "Ohio Administrative Knowledge System"
<b>OAKS CI</b>	See "OAKS Capital Improvements"
<b>Ohio Administrative Knowledge System</b>	The State's Enterprise Resource Planning system, known as the Ohio Administrative Knowledge System. OAKS Capital Improvements is one of several modules of the total OAKS system.
<b>Ohio Facilities</b>	
<b>Construction Commission</b>	The authorized contracting agent for public improvement projects in accordance with ORC Chapters 123 and 153, acting by and through its Executive Director. <b>Owner</b> The state of Ohio agency, Institution of Higher Education or division thereof, School District Board, or other instrumentality for whom the Project is being constructed.
<b>Owner's Project Requirements</b>	A written document that details the functional requirements of the Project and the expectations of how it will be used and operated. These include project goals, measureable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
<b>Partial Occupancy</b>	The condition that occurs when the Owner occupies or uses a portion of the Project prior to Contract Completion, temporary occupancy is approved by authorities having jurisdiction, and items of Work cannot be completed until a subsequent date.
<b>partnering</b>	A voluntary dispute prevention process involving team building activities to help define common goals, improve communication, and foster a problem solving attitude among a group of contracting parties that must work together throughout Contract performance to be less adversarial and more cooperative.

<b>Person</b>	An individual, corporation, business trust, estate, partnership, association, or other public or private entity.
<b>Phase</b>	A separation in the Work of the Project by sequence or time intervals, which may include separate contractors for each Phase.
<b>Plan Holder</b>	A prospective Bidder that received a set of Contract Documents prior to the bid opening.
<b>Product Data</b>	Manufacturer's standard illustrations, schedules, diagrams, performance charts, instructions, and brochures that illustrate physical appearance, size, and other characteristics of materials and equipment.
<b>Project</b>	The public improvement, of which the Work performed under the Contract Documents may be the whole or a part.
<b>Project Manager</b>	A permanent employee of the Contracting Authority assigned to the Project and authorized to perform specific responsibilities.
<b>Project Manual</b>	That part of Construction Documents which consists of bound volume(s) of primarily written material which generally contain Division 00 - "Procurement and Contracting Requirements," and Divisions 01 through 49 - "Specifications," and other documents pertaining to the Project.
<b>Proposal</b>	The offer of a Contractor to perform the Work set forth in a Proposal Request.
<b>Proposal Request</b>	A document issued after execution of the Contract requesting a Proposal from the Contractor(s), which may initiate a Change Order to modify the Contract.
<b>provide</b>	Furnish and install, complete and ready for intended use.
<b>Punch List</b>	A document listing items of Work requiring correction or completion by the Contractor as a condition precedent to Contract Completion.
<b>Record Documents</b>	Electronic files and printed documents of all nature prepared by the A/E, which incorporate the information shown on the Contractor's As-Built Documents. They consist of the "Record Drawings" and "Record Project Manual," the Certification of Contract Completion (as complete), Contractor's Warranty, Manufacturers' Warrantees, Certificate(s) of Occupancy, approved shop drawings and other action submittals, Change Directives, Proposal Requests, Requests for Interpretation, Addenda, Change Orders, Balancing Reports, and the final version of the approved Construction Progress Schedule.
<b>Record Drawings</b>	The Drawings, which have been revised by the A/E to show the changes made during the construction process, conformed to represent the Work as executed by the Contractor.
<b>Record Model</b>	The Building Information Model, which has been revised by the A/E to show the changes made during the construction process, conformed to represent the Work as executed by the Contractor.
<b>Record Project Manual</b>	The Project Manual of the Contract Documents, which has been revised by the A/E to show the changes made during the construction process, based on the As-Built Project Manual furnished by the Contractor.

Request for Change Order	A written notice from the Contractor accompanied by a Proposal for a change in the Work.
Request for Interpretation	A written request to the A/E seeking an interpretation or clarification of the Contract Documents.
RFI	See “Request for Interpretation”
Samples	Physical examples, color selection items, field samples, and mock-ups furnished by the Contractor to illustrate functional and aesthetic characteristics of products, materials, equipment, or workmanship and establish criteria by which the Work shall be judged.
Schedule of Values	A full, accurate, and detailed statement furnished by the Contractor reflecting a defined breakdown of the Contract Sum.
School District	A local, exempted village, or city school district as defined in ORC Chapter 3311, or a joint vocational school established pursuant to ORC Section 3311.18, performing essential governmental functions of state government pursuant to ORC Sections 3318.01 to 3318.20.
School District Board	The board of education of a School District.
Separate Consultant	A Person engaged by the Owner or the Contracting Authority to provide Project-related professional services other than the services under this Contract. The term includes the Separate Consultant’s authorized representatives, successors, assigns, and subconsultants regardless of tier.
Separate Contract	The contract between the Owner or the Contracting Authority and a Separate Consultant or a Separate Contractor.
Separate Contractor	A Person under contract with the Owner or the Contracting Authority to provide Project-related work other than the Work under this Contract. The term includes the Separate Contractor’s authorized representatives, successors, assigns, and subcontractors regardless of tier.
Shop Drawings	Drawings, diagrams, illustrations, and schedules specifically prepared for the Project provided by the Contractor or a Subcontractor to illustrate some portion of the Work. Shop Drawings are not Contract Documents. Shop Drawings on equipment shall include a written statement from the manufacturer of the equipment certifying the equipment is in compliance with the Contract Documents.
Site	The location designated for the Project.
Specifications	Those portions of the Contract Documents consisting of detailed written administrative, procedural, and technical requirements, included in Divisions 01 through 49, for the construction of the Work, whether physically on the Drawings or bound in separate volumes, including identification of acceptable materials, methods, equipment, quality, and workmanship.
Stage	A distinct period in the life cycle of a facility from concept through construction, to use and deconstruction or demolition. Typical Stages include Program Verification, Schematic Design, Design Development, Construction Documents, Bidding and Award stages; and the Construction Stage, which includes Construction and Closeout activities.

<b>Standard Requirements</b>	The brief name of the “State of Ohio Standard Requirements for Public Facility Construction,” including but not limited to General Conditions, and other Division 00 Documents and Division 01 Sections; currently in effect, which the Commission may modify from time to time.
<b>State</b>	The government of Ohio, including any organized body, office, or agency established by the laws of this state for the exercise of any function of state government or any state institution of higher education as defined in ORC Section 3345.011.
<b>Subcontract</b>	Any contract or agreement between the Contractor and a Subcontractor for performance of a portion of the Work.
<b>Subcontract Form</b>	The State of Ohio Subcontract Form prescribed by Ohio Administrative Code 153:1-3-02 and required for use with the General Contracting method of project delivery.
<b>Subcontractor</b>	A Person who undertakes to perform any part of the Work on the Project under a contract with a Contractor or with any Person other than the State, including all such Persons in any tier. The term "Subcontractor" includes Material Suppliers, but does not include any Separate Contractor unless expressly assigned in writing to the Contractor by the Owner and accepted by the Contractor.
<b>Substitution</b>	An article, device, material, equipment, form of construction, or other item, proposed by a prospective Bidder prior to the bid opening and approved by the A/E by Addendum, for incorporation or use in the Work as being functionally and qualitatively equivalent to essential attributes of a Basis of Design or Acceptable Component specified in the proposed Contract Documents.
<b>Supplementary Conditions</b>	Amendments to the General Conditions, issued as a separate document, which describe conditions of the Contract unique to a particular Owner or Project, which may include provisions regarding the assignment of responsibility for refuse removal, safety and security precautions and programs, temporary Project facilities and utilities, weather and fire protection, scaffolding and equipment, materials and services to be used commonly by the Contractor and Subcontractors and requiring the Contractor to provide assistance in the utilization of any applicable equipment system, preparation of operation and maintenance manuals, and training of Owner personnel for operation and maintenance of the Project. The General Conditions shall not be superseded or amended by Drawings and Specifications, unless so provided in Supplementary Instructions prepared by the Contracting Authority and approved by the Commission.
<b>Supplementary Instructions</b>	Amendments to the Instructions to Bidders, issued as a separate document, which describe instructions unique to a particular Owner or Project. The Instructions to Bidders shall not be superseded or amended by Drawings and Specifications, unless so provided in Supplementary Instructions prepared by the Contracting Authority and approved by the Commission.

- Surety** A Person providing a Bid Guaranty or a Bond to a Bidder or a Contractor, as applicable, to indemnify the State against all direct and consequential damages suffered by failure of the Bidder to execute the Contract, or of the Contractor to perform the Contract and to pay all lawful claims of Subcontractors, Material Suppliers and laborers, as applicable.
- Systems Manual** A system focused composite document that includes the operation manual, maintenance manual, and additional information of use to the Owner after they begin using the facility.
- Unit Price** The cost of providing a unit of Work including labor, materials, services, and associated expenses.
- Work** The labor, materials, equipment, and services, individually or collectively which are required by the Contract Documents, to be performed or provided by the Contractor for the Project. The furnishing of all material, labor, detailing, layout, supplies, plants, tools, scaffolding, transportation, temporary construction, superintendence, demolition, and all other services, facilities and items reasonably necessary for the full and proper performance and completion of the requirements of the Project as set forth in the Contract Documents, and items reasonably inferable therefrom and consistent therewith for the proper execution and completion of the construction and other services required by the Contract Documents, whether provided or to be provided by the Contractor or a Subcontractor, or any other entity for whom the Contractor is responsible, and whether or not performed or located on or off of the Site.

END OF DOCUMENT

**Document 00 72 13 - General Conditions (General Contract)**  
**State of Ohio Standard Requirements for Public Facility Construction**

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**ARTICLE 1 - GENERAL CONTRACTOR'S RESPONSIBILITIES**

**1.1 Nondiscrimination**

1.1.1 The Contractor shall comply with Applicable Law regarding equal employment opportunity, including Ohio Revised Code ("ORC") Section 153.59 and all Executive Orders issued by the Governor of the state of Ohio.

1.1.1.1 As required under ORC Section 153.59, the Contractor agrees to both of the following:

- 1 "in the hiring of employees for the performance of work under the contract or any subcontract, no contractor, subcontractor, or any person acting on a contractor's or subcontractor's behalf, by reason of race, creed, sex, disability or military status as defined in section 4112.01 of the Revised Code, or color, shall discriminate against any citizen of the state in the employment of labor or workers who is qualified and available to perform the work to which the employment relates; and"
- 2 "no contractor, subcontractor, or any person on a contractor's or subcontractor's behalf, in any manner, shall discriminate against or intimidate any employee hired for the performance of work under the contract on account of race, creed, sex, disability or military status as defined in section 4112.01 of the Revised Code, or color."

1.1.1.2 The Contractor shall cooperate fully with the State's Equal Opportunity Coordinator ("EOC"), with any other official or agency of the state or federal government, which seeks to eliminate unlawful employment discrimination, and with all other state and federal efforts to assure equal employment practices under the Contract.

1.1.1.3 In the event the Contractor fails to comply with these nondiscrimination clauses, the Contracting Authority shall deduct from the amount payable to the Contractor a forfeiture of the statutory penalty pursuant to ORC 153.60 for each person who is discriminated against or intimidated in violation of this Section 1.1.

1.1.1.4 The Contract may be terminated or suspended in whole or in part by the Contracting Authority and all money to become due hereunder may be forfeited in the event of a subsequent violation of this Section 1.1.

### 1.1.2 Hiring Under State Public Improvement Contracts.

1.1.2.1 Any provision of a hiring hall contract or agreement which obligates the Contractor to hire, if available, only employees referred to the Contractor by a labor organization shall be void as against public policy and unenforceable with respect to employment under any public improvement contract unless at the date of execution of the hiring hall contract or agreement, or within 30 days thereafter, the labor organization has procedures in effect for referring qualified employees for hire without regard to race, color, religion, national origin, military status as defined in ORC Section 4112.01, or ancestry and unless the labor organization includes in its apprentice and journeyperson's membership, or otherwise has available for job referral without discrimination, qualified employees, both whites and non-whites (including African-Americans).

### 1.1.3 Affirmative Action.

1.1.3.1 The Contractor and Subcontractors shall comply with the State's Equal Employment Opportunity requirements described under Ohio Administrative Code ("OAC") Sections 123:2-3 through 123:2-9 that include, without limitation, the requirements described under this Section 1.1.3.

1.1.3.2 The Contractor shall demonstrate its good faith efforts to comply with the utilization goals currently established for minority and women employees and submit documentation to the EOC.

1.1.3.3 By the 10th day of each month, the Contractor and Subcontractors shall submit to the EOC via the internet a completed Ohio Construction Contract Information Report - Input Form 29 (I-29) for the preceding month. The form shall be submitted through the Ohio Business Gateway:  
<http://business.ohio.gov/efiling/>.

## 1.2 Prevailing Wages

1.2.1 The Contractor shall comply with the prevailing wage requirements described under ORC Chapter 4115 that include, without limitation, the requirements described under this Section 1.2.

1.2.2 If the Project is subject to payment of prevailing wage rates, the Contractor shall:

1.2.2.1 pay to laborers and mechanics performing Work on the Project the prevailing wage rates of the Project locality, as determined by the Ohio Department of Commerce, Wage and Hour Bureau;

1.2.2.2 post in a prominent place readily accessible by all workers on the Site, a legible listing of the current classifications of laborers, workers, and mechanics employed under this Contract;

1.2.2.3 ensure that the rates posted are current and remain posted in legible condition during the period of the Contract; and

1.2.2.4 not be entitled to an increase in the Contract Sum on account of an increase in prevailing wage rates, except as otherwise provided by Applicable Law.

1.2.3 The Contractor may access the Ohio Department of Commerce, Wage & Hour Bureau at its website, <http://198.234.41.198/w3/webwh.nsf/pages/PrevailingWageBid>, to obtain the current wage rates.

## 1.3 Royalties and Patents

1.3.1 The Contractor shall pay all royalties, license fees, and assume all costs incident to the use, in the performance of the Work or the incorporation in the Work, of any invention, design, process, product, or device that is the subject of patent rights or copyrights held by others.

1.3.2 If the Contractor has reason to believe that use of the specified item is subject to patent or copyright protection, the Contractor shall immediately notify the Contracting Authority.

## 1.4 Assignment of Antitrust Claims

1.4.1 By signing the Agreement, the Contractor assigns, conveys and transfers to the Contracting Authority any right, title, and interest to any claims or causes of action it may have or acquire under state or federal antitrust laws relating to any goods, products, or services purchased, procured, or rendered to the State pursuant to the Contract.

## 1.5 Use of Domestic Steel

1.5.1 The Contractor is required by law to supply domestically produced steel products used for load bearing structural purposes on all projects funded in whole or in part with State funds.

1.5.2 The A/E, Contractors, and Subcontractors shall comply with the requirements of the Ohio Facilities Construction Commission's policy regarding the specification and use of domestically produced steel products, including furnishing the required certifications. This policy is available on the Commission's website at <http://ofcc.ohio.gov>.

## 1.6 Drug Free Safety Program Participation

1.6.1 Throughout the performance of the Work, the Contractor shall be enrolled in and remain in good standing in the Ohio Bureau of Workers' Compensation ("OBWC") Drug-Free Safety Program ("DFSP") or a comparable program approved by the OBWC that meets the requirements specified in ORC Section 153.03 ("OBWC-approved DFSP").

1.6.2 As required under ORC Section 153.03(E):

1.6.2.1 "Each contractor shall require all subcontractors with whom the contractor is in contract for the public improvement to be enrolled in and be in good standing in the Bureau of Workers' Compensation's Drug-Free Workplace Program or a comparable program approved by the Bureau that meets the requirements specified in section 153.03 of the Revised Code prior to a subcontractor providing labor at the project site of the public improvement."

1.6.2.2 "Each subcontractor shall require all lower-tier subcontractors with whom the subcontractor is in contract for the public improvement to be enrolled in and be in good standing in the Bureau of Workers' Compensation's Drug-Free Workplace Program or a comparable program approved by the Bureau that meets the requirements specified in section 153.03 of the Revised Code prior to a lower-tier subcontractor providing labor at the project site of the public improvement."

1.6.2.3 "Failure of a contractor to require a subcontractor to be enrolled in and be in good standing in the Bureau of Workers' Compensation's Drug-Free Workplace Program or a comparable program approved by the Bureau that meets the requirements specified in section 153.03 of the Revised Code prior to the time that the subcontractor provides labor at the project site will result in the contractor being found in breach of the contract and that breach shall be used in the responsibility analysis of that contractor or the subcontractor who was not enrolled in a program for future contracts with the State for 5 years after the date of the breach."

1.6.2.4 "Failure of a subcontractor to require a lower-tier subcontractor to be enrolled in and be in good standing in the Bureau of Workers' Compensation's Drug-Free Workplace Program or a comparable program approved by the Bureau that meets the requirements specified in section 153.03 of the Revised Code prior to the time that the lower-tier subcontractor provides labor at the project site will result in the subcontractor being found in breach of the contract and that breach shall be used in the responsibility analysis of that subcontractor or the lower-tier subcontractor who was not enrolled in a program for future contracts with the State for 5 years after the date of the breach."

1.6.3 Prior to authorizing a Subcontractor to commence Work on the Site, the Contractor shall obtain the Contracting Authority's approval, and shall also submit written confirmation of the Subcontractor's enrollment on the Subcontractor and Material Supplier Declaration form to the A/E.

1.6.4 In addition to OBWC-approved DFSP Basic requirements, each Contractor and Subcontractor that provides labor on the Site shall participate in a pool that performs random drug testing of at least 5 percent of its employees who perform labor on the Site. The random drug testing percentage shall also include the on-site supervisors of the Contractor and Subcontractor. Basic random drug testing shall otherwise comply with the same testing guidelines and criteria as required for OBWC-approved advanced testing. The Contractor and Subcontractor shall provide evidence of required testing to the Contracting Authority upon request.

## 1.7 Web-Based Project Management Software

1.7.1 If the Contracting Authority decides, at any time and in its sole discretion, to utilize the State's web-based project management software, known as the OAKS Capital Improvements ("OAKS CI") module, for the Project, the Contractor shall use OAKS CI for all compatible services required under this Contract.

1.7.2 All costs for the Contractor's use of OAKS CI for the Project shall be included in the Contract Sum, and additional compensation shall not be provided. If the Contractor is unfamiliar with the proper use of OAKS CI, the Contractor shall provide its employees for training without additional compensation.

## 1.8 EDGE Participation and Reporting

1.8.1 The Contractor shall participate in the "Encouraging Diversity Growth and Equity" ("EDGE") Program by subcontracting with, and using one or more, businesses certified as an EDGE Business Enterprise ("EDGE-certified business", "certified EDGE business") by the EOC.

1.8.1.1 If the Contractor is an EDGE-certified business, the Contractor may include its own compensation under this Contract in the reporting.

1.8.1.2 The amount of EDGE participation cannot exceed 100 percent of the Contract Sum.

1.8.2 The Contractor shall provide an EDGE Participation Report with each Contractor Payment Request.

1.8.2.1 The Contractor shall provide status reports, produced by the Contractor and each applicable EDGE-certified business for the Contract, indicating:

- .1 the name of each EDGE-certified business;
- .2 the federal tax identification number of each EDGE-certified business;
- .3 the date of the EDGE-certified business contract, subcontract, or purchase order;
- .4 the projected and actual start and end dates of the EDGE-certified business contract, subcontract, or purchase order;
- .5 the original amount of the EDGE-certified business contract or purchase order with the Contractor;
- .6 the current amount of the EDGE-certified business contract or purchase order;
- .7 the amount invoiced to date;
- .8 the amount paid to date;
- .9 the status of the EDGE-certified business contract or purchase order (active, complete, or void); and
- .10 a statement describing any substantive product or performance deficiencies.

1.8.2.2 The Contractor shall provide reports for each EDGE-certified business; however, the reports may be consolidated and submitted as one document.

1.8.3 The Contractor shall provide an EDGE Participation Final Report simultaneously with its final Contractor Payment Request.

1.8.3.1 The Contractor and each certified EDGE Business Enterprise shall provide in the report certification that the submitted document is a true and accurate accounting of the original contract amount paid to, and received by, each EDGE Certified Business.

1.8.4 The Contractor shall provide the EDGE Participation Reports in detail and form acceptable to the Contracting Authority.

1.8.4.1 Failure to timely submit EDGE Participation Reports may result in withholding payment in accordance with Section 9.8.2.

1.8.5 If the Project is administered using OAKS CI, the Contractor shall submit its EDGE Participation Reports, using the “Contractor Pay Request” business process.

1.8.6 The Contractor shall cooperate fully with requests for additional EDGE information and documentation from the EOC or the Contracting Authority.

## 1.9 Owner Work Rules

1.9.1 The Contractor shall consult with the Owner to obtain full knowledge of the Owner’s rules, regulations, or requirements affecting the Project.

## 1.10 Emergency

1.10.1 In the event of an emergency affecting the safety of the Project, other property, or individuals, the Contractor, without special instruction or authorization, shall act to prevent the threatened damage, injury, or loss.

1.10.2 If the Contractor believes that it is entitled to an adjustment of the Contract Sum or Contract Times, or both, on account of its actions in response to an emergency, the Contractor may request an adjustment to the Contract by giving written notice under Section 7.4.11.

## 1.11 Contractor’s Standard of Care

1.11.1 The Contractor shall perform the Work in a workmanlike manner, consistent with the standards of skill and care exercised by entities licensed to perform (where required under Applicable Law) and regularly performing comparable work in the same or similar locality under the same or similar circumstances.

## 1.12 Limit of Contractor’s Responsibility

1.12.1 The Contractor is not responsible for the A/E’s negligence or the A/E’s failure to properly perform the A/E’s contract.

## 1.13 Sustainability Requirements

1.13.1 This Project shall be designed and constructed in accordance with the requirements of Am. Sub. H.B. 251 of the 126<sup>th</sup> General Assembly and the resulting rules, policy, and procedures adopted by the Ohio Facilities Construction Commission establishing Sustainability Requirements for Capital Improvements Projects, including but not limited to the applicable provisions of OAC 123:4-1.

1.13.2 If the Project is designed and constructed under the Leadership in Energy and Environmental Design (“LEED”) Rating System developed by the U.S. Green Building Council or another rigorous rating system used to facilitate achievement of sustainability goals for the Project, the Contractor shall provide submittals certifying achievement of sustainable design rating system criteria for verification by the Green Building Certification Institute or other third party in accordance with the Contract Documents.

# ARTICLE 2 - STATE’S RIGHTS AND RESPONSIBILITIES

## 2.1 Contracting Authority

2.1.1 The Contracting Authority shall designate a Project Manager for the Project. The Project Manager is authorized to act on behalf of the Contracting Authority to perform specific responsibilities under the Contract.

2.1.2 The Contracting Authority shall furnish information and services required of it in a timely manner.

2.1.3 The Contracting Authority shall have access to the Work at all times, whenever the Project is in preparation or progress.

2.1.4 The Ohio Facilities Construction Commission requires the use of its forms where noted in the Contract Documents. The party responsible for initiating forms shall utilize the latest edition obtained from the Commission's website: <http://ofcc.ohio.gov>. The Commission may make modifications to its forms at any time.

2.1.4.1 The Contractor shall not modify any form provided by the Commission or the Contracting Authority.

2.1.4.2 If the Project is administered using OAKS CI, the Contractor shall utilize the web-based forms and reports within the applicable business process. OAKS CI is sponsored by the Commission, and such web-based forms and reports are acceptable to the Commission in lieu of its paper forms.

2.1.5 The Contracting Authority is not responsible for construction means, methods, manners, techniques, sequences, procedures, or for safety precautions and programs in connection with the Work, or for the Contractor's failure to carry out the Work in conformity with the Contract Documents.

## 2.2 Owner

2.2.1 The Owner shall designate a representative authorized to act on the behalf of the Owner during the Project.

2.2.2 The Owner shall furnish information and services required of it in a timely manner.

2.2.3 The Owner shall have access to the Work at all times whenever the Project is in preparation or progress.

2.2.4 Upon issuance of the Notice to Proceed, the Owner shall provide the Site to the Contractor in a condition to permit the Contractor to perform the Work.

2.2.5 The Owner may request a change in the Work if the A/E recommends and the Contracting Authority approves the change.

2.2.6 The Owner shall communicate with the Contractor through the Contracting Authority.

2.2.7 The Owner is not responsible for construction means, methods, manners, techniques, sequences, procedures, or for safety precautions and programs in connection with the Work, or for the Contractor's failure to carry out the Work in conformity with the Contract Documents.

## 2.3 Owner's Right to Partial Occupancy

2.3.1 The Owner may occupy or use a portion of the Project prior to Contract Completion if:

2.3.1.1 the building authority with jurisdiction over the Project issues a temporary or partial certificate of occupancy permit for the portion of the Project the Owner intends to occupy;

2.3.1.2 the A/E with the Owner's assistance has provided written notice of the Partial Occupancy to the insurers providing property insurance for the Project; and

2.3.1.3 the Contracting Authority has received notice of the Partial Occupancy from the A/E and has consented to it.

2.3.2 Before the Owner commences Partial Occupancy, the Owner, Contracting Authority, A/E and Contractor shall proceed as described under Sections 6.26 and 6.29 for the area designated for Partial Occupancy.

2.3.3 From the date of execution of the Partial Certification of Contract Completion by the Contracting Authority, the Contractor shall be relieved of the obligation to maintain the occupied portion of the Work, but shall remain obligated to complete and correct the Work and to carry the insurance required by the Contract Documents during performance of any such Work.

2.3.4 The Owner's Partial Occupancy does not constitute acceptance of any Defective Work, nor does it relieve the Contractor of liability for any express or implied warranties or responsibility for Defective Work.

## 2.4 Approval of Owner, Contracting Authority, and State

2.4.1 The Owner's, Contracting Authority's, or State's review and approval of the Work and any information the Contractor submits to them is for the sole purpose of determining whether the Work and information are generally consistent with the Contract's intent, and will not relieve the Contractor of its sole responsibility for the performance, preparation, completeness, and accuracy of the Work and information.

## 2.5 Contractor Performance Evaluation

2.5.1 The Contracting Authority shall evaluate the Contractor's performance during the progress of the Work, at completion of a phase of the Project, completion of the Project, or any of the foregoing. The Contracting Authority shall retain the evaluation(s).

2.5.1.1 The Contractor may request a copy of the completed evaluation(s). If the Contractor wishes to comment or take exception to any rating or remark, the Contractor shall send a response in writing to the Contracting Authority within 30 days of receiving the evaluation(s).

2.5.1.2 The Contracting Authority may use the evaluation(s) in determining the responsibility of the Contractor for award of future contracts.

2.5.1.3 The Contracting Authority may request information from the Contractor for use in evaluating the A/E's performance. If information is requested, the Contractor shall comply in a timely and responsive manner.

2.5.1.4 If a breach of the Contract is committed by the Contractor or is attributable to a Subcontractor, that breach shall be used in the responsibility analysis of the Contractor and the Subcontractor (where applicable) for future contracts with the State or subcontracts on State projects for 5 years after the date of the breach.

2.5.1.5 If the Project is administered using OAKS CI, the Contractor shall receive and review the Contracting Authority's evaluation of the Contractor's performance and respond with its comments, using the "Contractor Evaluation" business process.

## ARTICLE 3 - ARCHITECT/ENGINEER'S RESPONSIBILITIES

### 3.1 The A/E's Contract Administration Duties

3.1.1 The A/E shall administer the Contract as provided in the Contract Documents and the Architect/Engineer Agreement, including, but not limited to, the performance of the functions described as follows:

3.1.1.1 The A/E shall attend and conduct progress meetings. The A/E shall prepare an agenda and produce a written report of each progress meeting, and distribute the report to the Contracting Authority, the Owner, and the Contractor within 3 business days after the meeting. The A/E shall not delegate the duty to prepare the agenda and written reports of any progress meeting.

3.1.1.2 The A/E may authorize minor changes or alterations in the Work that are consistent with the intent of the Contract Documents and do not involve adjustment of the Contract Sum or the Contract Times, or both. The A/E has no authority to authorize the Contractor to perform additional or extra Work for which the Contractor may seek adjustment of the Contract Sum or the Contract Times, or both.

3.1.1.3 The A/E shall review and recommend, certify, or approve applicable forms required under the Contract Documents.

3.1.1.4 The A/E shall render decisions in connection with the Contractor's responsibilities under the Contract Documents, and submit recommendations to the Contracting Authority for enforcement of the Contract as necessary.

3.1.2 The A/E is the initial interpreter of all requirements of the Contract Documents. All decisions of the A/E are subject to final determination by the Contracting Authority.

### 3.2 Site Visits and Observation

3.2.1 The A/E shall notify, advise, and consult with the Contracting Authority and the Owner and protect the State against Defective Work throughout the completion of the Project, which includes the Correction Period.

3.2.1.1 The A/E shall designate a field representative, subject to the Contracting Authority's approval, to attend to the Project as required by the Architect/Engineer Agreement, to observe and check the progress and quality of the Work, and to take action as necessary or appropriate to achieve conformity with the Contract Documents.

3.2.1.2 The A/E shall have its consultants attend to the Project at the intervals required by its agreement or the Contracting Authority.

3.2.2 The A/E is authorized to disapprove or reject Defective Work. The A/E shall immediately notify the Contracting Authority any time the A/E disapproves or rejects an item of Work.

3.2.3 The A/E is not responsible for construction means, methods, manners, techniques, sequences, procedures, or for safety precautions and programs in connection with the Work, or for the Contractor's failure to carry out the Work in conformity with the Contract Documents.

### 3.3 Testing and Inspection Services

3.3.1 Unless otherwise specified in the Contract Documents, the A/E shall apply for, secure, and pay for the costs of structural testing and special inspections under Chapter 17 of the Ohio Building Code; testing including geotechnical analysis, environmental testing and analysis, concrete, masonry, structural steel, reinforcing steel, welding, bolts, steel connections, HVAC systems and controls, plumbing and piping, air and water balancing and testing, or other testing; or approval required by Applicable Law.

### 3.4 Approval of A/E

3.4.1 The A/E's review and approval of the Work and any information the Contractor submits to the A/E is for the sole purpose of determining whether the Work and information are generally consistent with the Contract's intent, and will not relieve the Contractor of its sole responsibility for the performance, preparation, completeness, and accuracy of the Work and information.

### 3.5 Limitation of A/E's Authority

3.5.1 Under no circumstances is the A/E authorized to:

3.5.1.1 bind the Owner or Contracting Authority to any authorizations under, modifications of, or amendments to any contract;

3.5.1.2 accept any defective or non-conforming services, Work, or vendor-furnished items;

3.5.1.3 make any settlements on behalf of the Owner or Contracting Authority; or

3.5.1.4 assume any responsibilities of the Contractor or Subcontractors.

## ARTICLE 4 - SUBCONTRACTORS

### 4.1 Evaluation and Approval

4.1.1 Within 10 days after the Notice to Proceed, or other period as mutually agreed by the Contractor and the Contracting Authority, the Contractor shall submit to the A/E a Subcontractor and Material Supplier Declaration form through which the Contractor identifies its Subcontractors.

4.1.2 The Contractor's failure to timely submit the information regarding a proposed Subcontractor may result in withholding payment in accordance with Section 9.8.

4.1.3 After receiving the Subcontractor and Material Supplier Declaration form, the A/E shall verify that it is complete and deliver it to the Contracting Authority and the Owner. If the A/E finds the form incomplete, the A/E shall return it to the Contractor and identify the incomplete information.

4.1.4 If the Contracting Authority rejects any proposed Subcontractor, the Contractor shall propose a replacement Subcontractor with no adjustment of the Contract Sum. The proposed replacement Subcontractor will be evaluated as described above.

4.1.5 If the Project is administered using OAKS CI, the Contractor shall submit its proposed Subcontractors through the "Subcontractor Supplier Declaration" business process.

## 4.2 Form of Subcontract

4.2.1 All Subcontracts shall be on the Subcontract form prescribed by OAC Section 153:1-03-02.

## 4.3 Replacement of Subcontractors

4.3.1 The Contractor shall not replace any Subcontractor after execution of the Subcontract without the prior written approval of the Contracting Authority.

## 4.4 Contractor's Responsibility

4.4.1 The Contractor is fully responsible for all acts and omissions of its Subcontractors and is responsible for scheduling and coordinating the Work of its Subcontractors.

4.4.1.1 The Contractor is fully responsible for any delay, interference, disruption, or hindrance attributable to the Contractor's Subcontractors.

4.4.1.2 The Contractor shall require that each of its Subcontractors have a competent supervisor at the Site whenever the Subcontractor is performing Work.

4.4.1.3 The Contractor shall bind its Subcontractors to the terms of the Contract Documents, so far as applicable to the Work of the Subcontractor, and shall not agree to any provision, which seeks to bind the State to terms inconsistent with, or at variance from the Contract Documents.

4.4.2 The Contractor will not be relieved of its full responsibility for Subcontractors and their performance of the Work by (1) the participation of the Owner, the Contracting Authority, and the A/E in the processes described under this Article 4 or other related provisions of the Contract Documents or (2) the Contracting Authority's rejection of a Subcontractor or failure to reject a Subcontractor under Section 4.1.

## 4.5 Contingent Assignment of Subcontracts

4.5.1 The Contractor hereby assigns its agreement with each Subcontractor to the Contracting Authority provided that the assignment is effective only after termination of the Contract by the Contracting Authority and only for those agreements which the Contracting Authority accepts by notifying the Contractor and applicable Subcontractor in writing. The Contracting Authority may re-assign accepted agreements.

## 4.6 Prompt Payment

4.6.1 The Contractor shall make payments to Subcontractors in accordance with Applicable Law, including ORC Section 4113.61 that include, without limitation, the requirements described under this Section 4.6.1.

4.6.1.1 If a Subcontractor requests payment in time to allow the Contractor to include the request in its Contractor Payment Request, the Contractor shall pay within 10 days after receipt of payment from the State:

- .1 To a Subcontractor other than a Material Supplier, an amount equal to the percent of completion allowed by the Contracting Authority for the Subcontractor's Work.
- .2 To a Material Supplier, an amount equal to all or that portion of the Contractor Payment Request that represents the materials furnished by the Material Supplier.

4.6.2 The Contractor may reduce the amount paid to a Subcontractor pursuant to Section 4.6.1 at a rate equal to the percentage retained from the Contractor and may withhold amounts necessary to (1) resolve disputed liens or Claims involving the Work of the Subcontractor or (2) account for the failure of the Subcontractor to perform its obligations under its agreement with the Contractor.

4.6.2.1 Labor Payments.

- .1 Partial payments to the Subcontractor for labor performed under either a Unit Price or lump sum Subcontract shall be made at the rate of 92 percent of the amount invoiced through the Subcontractor's request for payment that shows the Work of the Subcontractor is 50 percent complete, as evidenced by payments in the amount of at least 50 percent of the original amount due under the Subcontract.
- .2 After the Work of the Subcontractor is 50 percent complete, as evidenced by payments in the amount of at least 50 percent of the original amount due under the Subcontract, no additional funds shall be retained from payments for labor.

4.6.2.2 Material Payments.

- .1 The Contractor shall pay the Subcontractor at the rate of 100 percent of the scheduled value for materials incorporated into the Project.
- .2 The Contractor shall pay the Subcontractor at the rate of 92 percent of the invoice cost, not to exceed the scheduled value in a Unit Price or lump sum Subcontract, for materials delivered to the Site, or other off-site storage location approved by the A/E, provided the Subcontractor provides the information required by Sections 9.6.2.1 and 9.6.2.2 with its request for payment.

4.6.3 If the Contractor fails to comply with this Section 4.6, the Contractor shall pay to the applicable Subcontractor 18 percent interest, compounded annually, on any unpaid amount beginning on the 11th day after receipt of payment from the State.

4.6.4 In order to establish lien rights, Subcontractors shall comply with Applicable Law, including ORC Sections 1311.26, 1311.261, and 1311.29.

4.6.5 If the Contracting Authority receives a Claim Affidavit from a Subcontractor, it shall proceed as required by Applicable Law, including ORC Sections 153.63 and 1311.31.

4.6.6 Laborers, Subcontractors, and Material Suppliers may secure payment rights in accordance with Applicable Law, including ORC Section 153.56.

## ARTICLE 5 - PRECONSTRUCTION ACTIVITIES

### 5.1 Partnering

5.1.1 The formation of a cohesive, mutually beneficial partnering arrangement among the Contractor, the Contracting Authority, the A/E, and the Owner will accomplish the construction of the Project most effectively and efficiently. This arrangement draws on their collective strengths, skills, and knowledge to achieve a Project of the intended quality, within budget, and on schedule. To achieve that objective, participation in a partnering session is required for the following key stakeholders:

- 5.1.1.1 Contracting Authority: Project Manager

5.1.1.2 Owner: Primary representative

5.1.1.3 A/E: Principal-in-charge, project manager, field representative, major consultants

5.1.1.4 Contractor: Principal-in-charge, project manager, and superintendent

5.1.1.5 Major Subcontractors (e.g., plumbing, HVAC, electrical): Principal-in-charge, project manager or superintendent

5.1.1.6 CxA, if applicable

5.1.2 The purpose of the partnering arrangement is to build cooperative relationships between the Project's key stakeholders, avoid or minimize disputes, and nurture a more collaborative ethic characterized by trust, cooperation and teamwork. This arrangement is intended to produce a voluntary, non-binding, but formally structured agreement among the Project's key stakeholders, leading to an attitude that fosters risk sharing.

5.1.3 To create and implement the partnering arrangement, the Project's key stakeholders shall meet prior to the construction of the Project for developing a partnering agreement. The agreement should be comprehensive and focus on all issues necessary for successful completion of the Project, and shall identify common goals and objectives, develop a problem solution process, an Alternative Dispute Resolution ("ADR") strategy in accordance with Section 8.12, and an implementation plan for the partnering arrangement.

5.1.4 Formal contractual relations, responsibilities, and liabilities are not affected by any partnering arrangement. The cost associated with establishing this partnership shall be included in an allowance in the Contractor's bid. The Contractor shall include in its base bid the resources necessary to participate in the partnering session.

5.1.5 Partnering services may extend over the entire period of performance of the Contract and may include intervention or project realignment services to be utilized if serious disputes arise. The Project's key stakeholders should agree, during the initial partnering session, to the types of situations and circumstances in which intervention or realignment services shall be utilized.

5.1.5.1 If realignment or intervention services are utilized, partnering facilitators shall not be called as witnesses in any litigation, mediation, or quasi-judicial proceeding.

## 5.2 Building and Trade Permits and Licenses

### 5.2.1 Plan Approval.

5.2.1.1 The A/E shall secure the required structural, plumbing, HVAC, and electrical plan approvals from the Ohio Department of Commerce, Division of Industrial Compliance.

- .1 If the Project is not on State property, the A/E shall secure the plan approvals from the local certified building department with jurisdiction, if applicable.

5.2.1.2 The Contractor shall schedule and attend all intermediate and final inspections required for any permit applicable to the Work. The Contractor shall schedule the State Fire Marshal or local fire authority for the life safety inspection for occupancy permits. The Contractor shall give the A/E, the Contracting Authority, and the Owner reasonable notice of the dates and times arranged for inspections.

- .1 The Contractor shall pay for any reinspections required as a result of the Contractor's failure to receive approval of its Work.

### 5.2.2 Trade Permits and Licenses.

5.2.2.1 The Contractor shall obtain, maintain, and pay for any permit, inspection, or license applicable to the Contractor's particular trade.

### 5.2.3 Local Permits.

5.2.3.1 The Contractor shall secure and pay the fees for any permits, inspections, licenses, capacity charges, or tap fees required by local authorities having jurisdiction over the Project. The Contractor shall

give the A/E, the Contracting Authority, and the Owner reasonable notice of the date arranged for inspections.

#### 5.2.4 National Pollutant Discharge Elimination System (“NPDES”) Storm Water General Permit.

5.2.4.1 The A/E shall secure the NPDES general permit by submitting a Notice of Intent (“NOI”) application form to the Ohio Environmental Protection Agency at least 45 days prior to the start of construction. The Contractor shall be a “co-permittee” if required under Applicable Law.

5.2.4.2 The A/E shall prepare and certify a storm water pollution prevention plan to provide sedimentation and erosion controls at the Project.

5.2.4.3 The A/E shall prepare and process the required Notice of Termination (“NOT”) prior to Contract Completion.

## ARTICLE 6 - CONSTRUCTION AND CLOSEOUT

### 6.1 Commencement of Work on the Site

6.1.1 Unless the Contracting Authority agrees otherwise in writing, the Construction Stage will commence with the Contracting Authority’s issuance of the Notice to Proceed and will terminate upon Final Acceptance of the Project.

### 6.2 Responsibility of the Contractor

6.2.1 The Contractor shall complete portions of the Work in the sequence and time in the Construction Progress Schedule.

6.2.2 The Contractor shall supervise the Work.

6.2.3 The Contractor must perform the Work so as not to interfere with, disturb, hinder, or delay the services of Separate Consultants or the work of Separate Contractors. The Contractor must cooperate and coordinate fully with all Separate Consultants and Separate Contractors and must freely share all of the Contractor’s Project-related information with them to facilitate the timely and proper performance of the Work and of the services and work of the Separate Consultants and Separate Contractors.

6.2.4 The Contractor must afford every Separate Consultant and Separate Contractor proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of their services and work.

6.2.5 If the Contractor damages the property or work of any Separate Consultant or Separate Contractor, or by failure to perform the Work with due diligence, delays, interferes with, hinders, or disrupts the services of any Separate Consultant or the work of any Separate Contractor who suffers additional expense and damage as a result, the Contractor is responsible for that damage, injury, or expense.

6.2.6 The intent of Sections 6.2.3 through 6.2.5 is to benefit the Separate Consultants and Separate Contractors, and to demonstrate that the Separate Consultants and Separate Contractors are intended third-party beneficiaries of the Contractor’s obligations under the Contract.

6.2.7 If the proper execution or results of any part of the Work depends upon work performed or services provided by the Owner, a Separate Consultant, or a Separate Contractor, the Contractor must inspect that other work and appropriate instruments of service, and promptly report to the Contracting Authority in writing any defects or deficiencies in that other work or services that render it unavailable or unsuitable for the proper execution and results of the Work. The Contractor’s failure so to report will constitute an acceptance of the other work and services as fit and proper for integration with the Contractor’s Work except for defects and deficiencies in the other work or services that were not reasonably discoverable at the time of the Contractor’s inspection.

6.2.8 The Contractor shall not delay the Work on account of any claim, dispute, or action between the Contractor and a Separate Consultant or Separate Contractor.

6.2.9 The Contractor shall develop and keep current the Construction Progress Schedule in accordance with Section 6.5, and prepare and keep current a schedule of submittals that is coordinated with the Construction Progress Schedule, for the A/E and Contracting Authority's acceptance.

6.2.10 The Construction Progress Schedule shall not exceed the time limits current under the Contract Documents, shall provide for reasonable, efficient, and economical execution of the Project, and shall relate to the entire Project to the extent required by the Contract Documents.

6.2.11 The Contractor shall use the Construction Progress Schedule to plan, organize, and execute the Project, record and report actual performance and progress, and show how it plans to coordinate and complete all remaining work by the Contract Completion date.

6.2.12 The Contractor shall monitor the progress of the Work for conformance with the Construction Progress Schedule and shall initiate revisions as required by Section 6.5.14.

6.2.13 The Contractor shall establish the Project's regular working hours, subject to approval by the A/E and the Owner.

6.2.14 The Contractor shall coordinate the Work with the activities and responsibilities of the Owner, the A/E, and the Contracting Authority to complete the Project in accordance with the Contract Documents.

6.2.15 In the event of default of the Contractor, the Contractor shall cooperate with the A/E, the Contracting Authority, and the Contractor's Surety to achieve the Contract Completion date.

6.2.16 The Contractor shall remove all snow and ice as may be required for reasonably safe access to the Project including, but not limited to, building entries, driveways, parking lots, and sidewalks.

6.2.17 The Contractor shall keep a daily log containing a record of weather, number of workers on Site for the Contractor, identification of equipment, Work accomplished, problems encountered, and other similar relevant data.

### 6.3 Construction Procedures

6.3.1 The Contractor is solely responsible for and has control over all construction means, methods, manners, techniques, sequences, and procedures, for safety precautions and programs in connection with the Work, and for coordinating all portions of the Work.

6.3.1.1 If the Contract Documents give instructions that affect construction means, methods, manners, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety of them and, except as stated below, shall be fully and solely responsible for the jobsite safety of the means, methods, manners, techniques, sequences, or procedures.

6.3.1.2 If the Contractor determines that the means, methods, manners, techniques, sequences, or procedures may not be safe, the Contractor shall give timely written notice to the Owner, the A/E, and the Contracting Authority. The Contractor shall not proceed with that portion of the Work without further written instructions from the A/E. Any modification of the Contract shall be in accordance with Article 7.

6.3.2 The Contractor shall lay out and coordinate all lines, levels, elevations, and measurements for all the Work, coordinate and verify existing conditions, and notify the A/E of discrepancies and conflicts before proceeding with installation or excavation.

6.3.3 The Contractor shall perform all cutting, fitting, or patching required for the Work and shall not endanger the Project by cutting, excavating, or otherwise altering the Project, or any part of it.

6.3.3.1 If the Contractor requires sleeves for the Work, the Contractor shall furnish and install the sleeves. The Contractor is responsible for the exact location and size of all holes and openings required to be formed or built for the Work.

6.3.3.2 The Contractor's patching shall match and blend with the existing or adjacent surface(s).

6.3.4 The Contractor shall comply with ORC Sections 3781.25 through 3781.32. In addition, before starting excavation or trenching, the Contractor shall determine the location of any underground utilities and notify any public authority or utility having jurisdiction over the Project and secure any required approval.

6.3.4.1 The Contractor shall give notice at least 2 business days in advance of excavation to the owners of underground utilities registered with the Ohio Underground Utility Protection Services ("OUPS" at <http://oups.org>, phone 811 or 800-362-2764), and the owners of underground utilities shown on the plans and specifications who are not registered members of OUPS. The owner of an underground utility is required within 48 hours notice to stake, mark, or otherwise designate the location of its utilities in the construction area together with its approximate depth. In the event that any underground utility owner fails to timely perform, the Contractor shall notify the A/E and contact the owner of the underground utility.

6.3.5 The Contractor shall install all Work in accordance with the Contract Documents and any installation recommendations of the manufacturer, including required temperature and humidity limits for installation of the various materials.

6.3.6 The Contractor shall comply with all requirements and conditions of the NPDES general permit, including, but not limited to, implementing and maintaining the sedimentation and erosion control measures specified in the storm water pollution prevention plan prepared by the A/E pursuant to Section 5.2.4, which are related to the Work, maintaining records of its construction activities, removing materials no longer required, and taking proper action if there is a reportable quantity spill.

6.3.7 The Contractor shall communicate with the Contracting Authority and the Owner through the A/E.

#### 6.4 Construction Supervision

6.4.1 Unless waived by the Contracting Authority in writing, the Contractor shall provide continuous supervision at the Site by a competent superintendent when any Work is being performed and the Contractor's superintendent shall not be involved with any work other than the Project.

6.4.2 The Contractor's project manager and superintendent shall each have the responsibility and authority to act on behalf of the Contractor. All communications to the Contractor's project manager or superintendent shall be binding as if given directly to the Contractor.

6.4.3 The Contractor shall submit an outline of the qualifications and experience of the Contractor's proposed project manager and proposed superintendent, including references, to the Contracting Authority no less than 10 days of the Notice to Proceed. For all Subcontracts in excess of \$200,000, and for all other Subcontracts on request from the Contracting Authority, the Contractor shall submit an outline of the qualifications and experience of the Subcontractor's proposed project manager and proposed superintendent, including references, to the Contracting Authority no less than 10 days before the Subcontractor is scheduled to begin Work on the Site.

6.4.3.1 The Contracting Authority may reject the Contractor's or the Subcontractor's proposed project manager or proposed superintendent. If the Contracting Authority does not notify the Contractor of the rejection within 30 days after receiving the required information, it shall indicate that the Contracting Authority has no objection, but does not affect the Contracting Authority's rights under Section 6.12.2 or any other provision relative to that project manager or superintendent.

6.4.3.2 If the Contracting Authority rejects the Contractor's or the Subcontractor's proposed project manager or proposed superintendent, the Contractor shall replace, or cause the Subcontractor to replace

the project manager or superintendent (as appropriate) with someone acceptable to the Contracting Authority at no additional cost.

6.4.4 The Contractor and its Subcontractors subject to Section 6.4.3 shall not replace their respective project managers or superintendents without prior written approval of the Contracting Authority.

6.4.4.1 If the Contractor or a Subcontractor subject to Section 6.4.3 proposes to change its project manager or superintendent, the Contractor shall submit written justification for the change to the Contracting Authority, along with the name and qualifications of the proposed replacement.

6.4.4.2 The procedure provided in Section 6.4.3 shall be conducted to evaluate the Contractor's or Subcontractor's (as applicable) proposed replacement project manager or superintendent.

## 6.5 Construction Progress Schedule

6.5.1 If the Estimated Construction Cost for the Project is \$500,000 or more, the Contractor shall prepare and maintain a resource-loaded Construction Progress Schedule using the critical-path method of scheduling that provides the following information:

6.5.1.1 a graphic presentation of the sequence of the Work for the Project in the media and format required for the Project;

6.5.1.2 identification of each stage of the Work and any Milestone dates;

6.5.1.3 identification of activities and durations for review and approval of Shop Drawings and other action submittals, fabrication and review of mock-up Work, product review and procurement, fabrication, shop inspection, and delivery, including, but not limited to, lead time, coordination drawing delivery, Punch List, Punch List Correction, Project close-out requirements, Contract Completion, and occupancy requirements;

6.5.1.4 identification of disruptions and shutdowns due to other operations;

6.5.1.5 identification of the critical path of the Work;

6.5.1.6 identification of the crew size and total resource hours for each activity in the schedule; and

6.5.1.7 the Contractor's signature and date indicating approval.

6.5.2 The Contractor shall develop the Construction Progress Schedule using commercially available, personal computer software that is acceptable to the Contracting Authority and shall submit all baseline and updated schedules to the A/E in electronic format.

6.5.3 The Construction Progress Schedule shall not exceed the time limits current under the Contract Documents, shall provide for reasonable, efficient, and economical execution of the Project, and shall relate to the entire Project to the extent required by the Contract Documents.

6.5.4 The Contractor shall use the Construction Progress Schedule to plan, organize, and execute the Project, record and report actual performance and progress, and show how it plans to coordinate and complete all remaining Work within applicable Milestones. The Project participants shall use the Construction Progress Schedule as a tool for scheduling and reporting sequenced progress of the Work. The Contractor shall provide a clear graphics legend and other data including, but not limited to, Milestone dates, constraints, and other items required by the Project, the A/E, the Contracting Authority, and the Owner. Each submission shall show the Contracting Authority's Project number and Project name, and provide a signature approval and date line for the Contractor.

6.5.5 The Contractor shall provide in each schedule: Activity identification and description for each activity broken down to a maximum duration that is appropriate for the activity, responsibility of the Contractor, Contractor's resources and crew size for each activity, provide early start, early finish, late start, late finish. Each schedule shall show predecessor activities and successor activities for each activity, entry free float, total

float, and percentage of completion, and identify the appropriate predecessors and successors for all related activities.

6.5.6 The Construction Progress Schedule shall show all submittal dates, coordination drawing preparation, Shop Drawings submittals, and mock-up review and approval durations.

6.5.7 The Contractor shall submit the initial and all updates of the Construction Progress Schedule in graphic and tabular form to the A/E. With each monthly schedule update, the Contractor shall include a list of all changes to the previously approved baseline schedule or monthly updated schedule.

6.5.7.1 Upon receipt of the Construction Progress Schedule, the A/E shall review and submit a copy of the Construction Progress Schedule to the Contracting Authority and the Owner for review and acceptance, or reject it, and return it to the Contractor with recommendations for revisions.

6.5.7.2 If the Project is administered using OAKS CI, the Contractor shall create, approve, and submit the initial and all updates of the Construction Progress Schedule to the A/E, the Contracting Authority, and the Owner through the "Schedule Approvals" business process.

6.5.8 The Construction Progress Schedule shall be managed using early start dates and early finish dates. The Contractor shall exhaust existing float before claiming additional time for a Change Order, or show that it is not possible to use float to cover the time requirements of the Change Order.

6.5.9 The Contractor's failure to timely submit and properly maintain an approved Construction Progress Schedule may result in withholding payment in accordance with Section 9.8.

6.5.10 For each progress meeting, the Contractor shall provide a 2- to 6-week look-ahead schedule, as appropriate for the Project.

6.5.11 On a weekly basis, the Contractor shall prepare and submit to the A/E a written report describing:

6.5.11.1 activities begun or finished during the preceding week;

6.5.11.2 activities in progress and expected completion;

6.5.11.3 activities to be started or finished in the upcoming 2 weeks, including but not limited to, the Contractor's workforce size and total resource hours associated with those activities; and

6.5.11.4 other information requested by the A/E.

6.5.12 The A/E shall attach the above information to the minutes of the weekly progress meetings.

6.5.13 The Contractor shall provide monthly Progress Status Reports to the Contracting Authority, the A/E, and the Owner, which shall include recommendations for adjusting the Construction Progress Schedule to meet Milestone dates and the Contract Completion date.

6.5.13.1 If it is apparent to the A/E that the Contractor may be unable to meet critical path activities, Milestone completion dates, or the Contract Completion date; the A/E shall direct the Contractor to submit within 3 days a recovery plan to avoid or minimize the delay to the Project.

6.5.13.2 A recovery plan shall include, but is not limited to, adjustments to one or more of the following:

- .1 workforce
- .2 hours per shift
- .3 shifts per workday
- .4 workdays per week
- .5 equipment
- .6 activity logic

6.5.13.3 If the A/E approves the recovery plan, the Contractor shall prepare a revised Construction Progress Schedule that shall be approved in accordance with Section 6.5.7.1. If the A/E does not approve a

time recovery plan, the Contractor shall submit within 3 days an alternate recovery plan to the A/E in writing for review and approval in accordance with Section 6.5.7.1.

6.5.14 The Contractor shall update the Construction Progress Schedule on a monthly basis, or other interval approved by the Contracting Authority, in accordance with Section 6.5.7.1.

6.5.14.1 The updated Construction Progress Schedule approved by the Contractor shall serve as an affirmation that the Contractor can meet the requirements of the updated Construction Progress Schedule.

6.5.14.2 The Contractor shall submit a tabular copy showing all changes to the previously approved schedule including, but not limited to, logic, float, and actual start date of activities. The original or initially approved Construction Progress Schedule and all subsequent Construction Progress Schedules submitted by the Contractor, and accepted by the A/E, shall serve as an affirmation that the Contractor agrees to and can meet the applicable requirements of the updated Construction Progress Schedule.

6.5.15 The Contractor's failure to timely submit an approved, updated Construction Progress Schedule may result in withholding payment in accordance with Section 9.8.

## 6.6 Progress Meetings

6.6.1 The A/E shall schedule a weekly progress meeting for the Contractor and other Persons involved in the Project. The purpose of the progress meeting is to review progress on the Project during the previous week, discuss anticipated progress during the following weeks, review critical operations, and discuss critical problems.

6.6.2 The Contractor shall be represented at every progress meeting by a Person authorized with signature authority to make decisions regarding possible modification of the Contract Documents or Construction Progress Schedule.

6.6.2.1 The A/E shall notify the Contractor and other Persons involved in the Project of the time and place of the progress meeting that shall thereafter be the same day and hour of the week for the duration of the Project, unless the A/E notifies the Contractor and other Persons involved in the Project of a different day and hour at least 2 days in advance.

6.6.2.2 The Contractor shall have any of its Subcontractors attend the progress meeting as determined advisable by the Contractor, or as requested by the A/E.

6.6.3 The A/E shall prepare a written report of each progress meeting and distribute the report to the Contracting Authority, the Owner, and the Contractor. The A/E shall not delegate the duty to prepare a written report of any progress meeting.

6.6.3.1 If any Person in attendance objects to anything in a report of a progress meeting, the Person shall notify the A/E, the Contracting Authority, and any other affected Person in writing explaining the objection within 5 days.

6.6.3.2 The report of each progress meeting shall reflect any objection made to the report of the previous progress meeting and any response.

6.6.3.3 If the Project is administered using OAKS CI, the Contractor shall receive written reports of progress meetings from the A/E through the "Meeting Minutes" business process and issues identified during progress meetings that require resolution by one or more construction participants, shall be documented through the "Action Items" business process.

## 6.7 Project Coordination

6.7.1 The Contractor shall prepare drawings (the "Coordination Drawings") after the Coordination Participants (1) determine the sequence of the Project, (2) identify the areas requiring special attention ("Coordination Areas"), and (3) determine the need for a coordination drawing for any Coordination Area. The Contractor shall prepare the Coordination Drawings with Computer-Aided Design ("CAD") or Building Information

Modeling (“BIM”) software acceptable to the Contracting Authority. The Coordination Drawings shall show the sheet metal work with plan and elevation dimensions, which specifically locate all HVAC ductwork, HVAC equipment, and HVAC piping for each Coordination Area based upon the information, discussion, and resulting consensus of the Coordination Participants during the coordination meetings.

6.7.1.1 After the Contractor completes the Coordination Drawings, the Contractor shall forward a copy of the Coordination Drawings to the A/E, the Contracting Authority, and the Owner.

6.7.1.2 The A/E shall review the Coordination Drawings to determine whether the Coordination Participants achieved the goals listed in Section 6.7.1. The A/E shall report any concerns, in writing, to the Coordination Participants within 14 days after receiving the drawings.

6.7.1.3 If the Project is administered using OAKS CI, the Contractor shall submit the Coordination Drawings to the A/E, and the CxA if applicable, through the “Submittals” business process.

## 6.8 Additional Tests and Inspections

6.8.1 If the A/E or the Contracting Authority determines that any portion of the Work requires special inspection, testing, or approval not otherwise required under the Contract Documents, the A/E shall order such inspection, testing, or approval.

6.8.1.1 If the special inspection, testing, or approval reveals Defective Work, the Contractor shall pay all associated costs and will not be entitled to any related adjustment of the Contract Times. Those costs may include, but are not limited to:

- .1 the cost of the special inspection, testing, or approval;
- .2 the cost of additional special inspections, testing, or approvals to evaluate remedial Work;
- .3 the cost of correcting the Defective Work; and
- .4 all related Owner-incurred fees and charges of contractors, engineers, architects, attorneys, and other professionals.

6.8.1.2 The Contracting Authority may deduct the costs described under Section 6.8.1.1 from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

6.8.1.3 If the special inspection, testing, or approval reveals that the Work complies with the Contract Documents, and the Contractor believes that it is entitled to an adjustment of the Contract Sum or Contract Times, or both, on account of the special inspection, testing, or approval, the Contractor may request an adjustment to the Contract by giving written notice under Section 7.3.2.

6.8.2 If the Contractor is aware of a need for inspection, testing, or approval, or of a need to have any inspection, testing, or approval completed by a particular time to avoid delay, then the Contractor shall timely communicate such information to the A/E and the Contracting Authority.

6.8.3 Except as described under Section 6.8.1, the Owner shall pay for any inspection, testing, or approval that did not become a requirement until after it awarded the Contract.

6.8.4 The Contractor shall coordinate with and give the A/E, the Contracting Authority, and the Owner reasonable notice of the anticipated dates of all inspections, testing, or approvals.

6.8.5 Within 5 days after completion of an inspection, testing, or approval, the A/E shall provide an original report/certificate of the inspection, testing, or approval to the Contractor and the Contracting Authority with a recommendation for or against acceptance of the results therein.

6.8.6 Neither the observations of the A/E in the administration of the Contract, nor any inspection, test, or approval by Persons other than the Contractor shall relieve the Contractor from the Contractor's obligation to perform the Work in conformity with the Contract Documents.

## 6.9 Review of Contract Documents and Field Conditions

6.9.1 Before starting each portion of the Work, the Contractor shall carefully study and compare the various Contract Documents relative to that portion of the Work, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the Site affecting it.

6.9.2 If the Contractor finds any perceived ambiguity, conflict, error, omission, or discrepancy on or between any of the Contract Documents, or between any of the Contract Documents and any Applicable Law, the Contractor, before proceeding with the Work, shall promptly submit a Request for Interpretation (“RFI”) to the A/E for an interpretation or clarification.

6.9.2.1 Before submitting any RFI to the A/E, the Contractor shall carefully review the Contract Documents to ensure that the Contract Documents do not answer the RFI.

6.9.2.2 The A/E shall respond to an RFI within 3 days of receiving the RFI.

6.9.2.3 Any interpretation or clarification of the Contract Documents made by any Person other than the A/E, or in any manner other than writing, shall not be binding and the Contractor shall not rely upon it.

6.9.2.4 If the Project is administered using OAKS CI, the Contractor shall submit RFIs to the A/E through the “Request for Interpretations” business process.

6.9.3 If the Contractor believes that it is entitled to an adjustment of the Contract Sum or Contract Times, or both, on account of clarifications or instructions issued by the A/E in response to a RFI, the Contractor may request an adjustment to the Contract by giving written notice under Section 7.3.2 within 7 days of receiving the A/E’s RFI response.

6.9.4 If the Contractor does not notify the A/E per Section 6.9.3, the Contractor will have accepted the RFI response without an adjustment to the Contract Sum or Contract Times.

## 6.10 Protection of the Project

6.10.1 The Contractor shall protect the Work from weather and maintain the Work and all materials, apparatus, and fixtures free from injury or damage until Final Acceptance, or Partial Occupancy if applicable.

6.10.1.1 The Contractor shall at all times cover or protect the Work.

6.10.1.2 The Contractor, at its expense, shall remove, and replace with new, any Work damaged as a result of Contractor’s failure to provide coverage or protection.

6.10.1.3 The Contractor, at its expense, shall repair or replace any adjacent property, including, but not limited to, roads, walks, shrubbery, plants, trees, or turf, damaged during performance of the Work.

6.10.1.4 After the date of Final Acceptance, or Partial Occupancy if applicable, the Owner is responsible for protecting and maintaining all materials, apparatus, and fixtures for the occupied portion of the Project free from injury or damage.

6.10.2 The Contractor shall protect the Project and existing or adjacent property from damage at all times and shall erect and maintain necessary barriers, furnish and keep lighted necessary danger signals at night, and take reasonable precautions to prevent injury or damage to individuals or property.

6.10.3 The Contractor shall not load, or permit any part of the Project to be loaded, in any manner that endangers the Project, or any portion thereof. The Contractor shall not subject any part of the Project or existing or adjacent property to stress or pressure that endangers the Project or property.

6.10.4 The Contractor shall provide all temporary bracing, shoring, and other structural support required for safety of the Project and proper execution of the Work.

### 6.10.5 Vibration, Noise, and Dust Control.

6.10.5.1 The Contractor shall provide controls/barriers for vibrations, noise, and dust control in occupied buildings as required by the construction operations.

6.10.5.2 The Contractor will not be permitted to exhaust or release unfiltered air, dust, construction debris, or other undesirable products into the exterior atmosphere or into occupied areas of the building outside the Site. The Project Manager may limit or stop the Work if the Contractor does not maintain proper air-quality standards.

6.10.5.3 In certain occupied buildings, tasks might be of such a nature that noise and vibration cannot be tolerated. In such spaces, Work shall be scheduled for other than normal working hours. The Contractor is cautioned that weekend or overtime work, if required, shall be performed at no additional cost. Permission to work other than standard hours shall be received from the Contracting Authority prior to the occurrence. Weekend and overtime Work shall be reflected in the Construction Progress Schedule.

6.10.5.4 The Contractor is responsible for vibration control and control of transmission of noise arising from the Work. Principal considerations which shall be given to noise and vibration control are:

- .1 Noise control in compliance with Occupational Safety and Health Administration (“OSHA”) requirements for the health and safety of building occupants; control shall be for all areas of the facility, including equipment rooms, boiler rooms, and fan rooms.
- .2 Vibration control to limit sound produced by construction equipment, and for protection of the equipment existing in a building and the building structure.
- .3 Vibration control to provide for maximum usefulness of the facility by keeping levels of vibration within ranges which are conducive to study and work or other uses for which the facility is designed.

## 6.11 Materials and Equipment

6.11.1 The Contractor shall provide new materials and equipment of the quality specified in the Contract Documents.

6.11.2 The Contractor shall bring to, or store at, the Site only the materials and equipment required in the Work. If possible, materials and equipment should be installed in their final positions when brought to the Site.

6.11.2.1 The Contractor shall properly store and protect all materials and equipment it provides to the Project.

6.11.2.2 The Contractor shall timely remove from the Site any materials or equipment no longer required for the Work.

6.11.3 The Contractor shall not allow materials or equipment to damage the Project or adjacent property, nor to endanger any individual at, or near, the Site.

6.11.4 If the Contractor provides an Acceptable Component, the Contractor shall be solely responsible for the costs of coordination and modification required.

6.11.5 If the Contractor provides approved Substitutions that require changes to the Contract Documents, the Contractor shall be solely responsible for the additional costs incurred as a result, including, but not limited to, changes to the design by the A/E.

6.11.6 The A/E shall consider Requests for Substitutions after the bid opening only when the Contractor can conclusively demonstrate to the A/E the following conditions:

6.11.6.1 the specified Basis of Design Components, Acceptable Components, or previously-approved Substitutions, through no fault of the Contractor or a Subcontractor, are not available; or

6.11.6.2 the specified Basis of Design Components, Acceptable Components, or previously-approved Substitutions will not perform as designed or intended.

6.11.7 The Contractor’s incorporation of unapproved Substitutions in the Work shall constitute Defective Work.

## 6.12 Labor

6.12.1 The Contractor shall maintain a sufficient workforce and enforce good discipline and order among its employees and the employees of its Subcontractors. The Contractor shall not permit employment of individuals not skilled in tasks assigned to them.

6.12.2 The Contractor shall dismiss from the Project any individual employed by the Contractor, or a Subcontractor, who the Contracting Authority finds, in its sole discretion, to be incompetent, guilty of misconduct, or detrimental to the Project.

6.12.3 The Contractor shall employ all legal efforts to minimize the likelihood or effect of any strike, Work stoppage, or other labor disturbance. Informational pickets shall not justify any Work stoppage.

## 6.13 Safety Precautions

6.13.1 The Contractor shall take reasonable precautions to ensure the safety of individuals on the Project.

6.13.1.1 The Contractor is responsible for designing and implementing its own safety program, including compliance with OSHA regulations. The Contractor's safety plans, such as fall protection, hazards, communications, competent person, etc., shall meet or exceed the Owner's safety plan (if any).

6.13.2 The Contractor shall pay any fine or cost incurred because of the Contractor's violation, or alleged violation, of Applicable Law.

6.13.3 Before starting any Work, the Contractor shall submit to the Contracting Authority a copy of the Contractor's site-specific safety plan and safety manuals.

6.13.4 The Contractor shall not introduce Hazardous Materials to the Project or burn any fires on the Site.

6.13.4.1 The Contractor shall notify the Project Manager 24 hours before the start of non-routine or non-recurring hot-work. Use of sources of fire, flame or sparks and flammable materials shall be kept to an absolute minimum. At the beginning of the Project, the Contractor shall inform the Project Manager of its intent to use blowtorches, welding apparatus or similar exposed flame and sparking devices. Similar notice shall be given in regard to the use of flammable liquids, adhesives, and cleaners.

6.13.4.2 The Contractor shall furnish an appropriate number of fire extinguishers (minimum of 1), which shall be within the immediate areas where work is being done at all times. The extinguisher shall be adequate and suitable for the class of fire likely to be caused by the Contractor's operations.

6.13.5 Work Stoppage Due to Hazardous Materials.

6.13.5.1 If the Contractor encounters material the Contractor reasonably believes to be, or contain, a Hazardous Material, which has not been rendered harmless, the Contractor shall immediately stop Work in the affected area and verbally report the condition to the Contracting Authority and the A/E, and within 1 business day deliver written notice of the condition to the Contracting Authority and the A/E.

6.13.5.2 The Contracting Authority will promptly determine the necessity of the Owner retaining a qualified environmental consultant to evaluate the suspected Hazardous Material and to issue a related written report. Where appropriate, the Owner will engage a licensed abatement contractor to remove the material or render it harmless as directed.

6.13.5.3 The Contractor shall resume Work in the affected area upon written notice from the A/E that (1) the suspect material was evaluated and found not to be or contain a Hazardous Material, or (2) the suspect material has been removed or rendered harmless.

6.13.5.4 If the Contractor knowingly or negligently proceeds with the Work in an area where a Hazardous Material exists and has not been rendered harmless, the Contractor shall be solely responsible for all related claims, damages, losses, and expenses, including, but not limited to, attorneys fees, arising out of or resulting from performing the Work in the affected area.

6.13.5.5 The term "rendered harmless" means that the level of exposure is less than any applicable exposure standards set forth in Applicable Law.

6.13.6 Material Safety Data Sheets.

6.13.6.1 The Contractor shall identify any material it uses at the Site with a Material Safety Data Sheet ("MSDS").

6.13.6.2 The Contractor shall maintain a notebook containing all of its applicable MSDSs. This notebook shall be kept at the Site for the duration of the Project.

6.14 Construction Facilities, Utilities, and Equipment

6.14.1 Facilities.

6.14.1.1 The Contractor shall provide and maintain in a clean condition suitable temporary facilities, equipment, services, and enclosed storage for its use at the Site.

6.14.1.2 The Contractor shall provide and maintain in a clean condition:

- .1 suitable facilities, equipment, and services for use by the A/E and the Contracting Authority;
- .2 adequate space, equipment, and furnishings to conduct progress meetings, and store approved documents and permits; and
- .3 adequate sanitary facilities for use by all Persons at the Site.

6.14.2 Environmental Controls.

6.14.2.1 The Contractor shall protect its Work and materials from weather and damage from heat, cold, and humidity.

6.14.2.2 Until the permanent HVAC system is complete and available for use:

- .1 the Contractor shall make arrangements and pay for installation and maintenance of temporary heating and ventilating systems; and
- .2 the Contractor shall pay the costs incurred in operating the temporary heating and ventilating systems.

6.14.2.3 When the permanent HVAC system is complete and available for use:

- .1 The Contractor shall start up and maintain operation of the permanent HVAC system, including filters, and promptly remove temporary heating and ventilating systems.
- .2 If the Project consists entirely of new construction, the Contractor shall pay the costs of energy consumed in operating the permanent HVAC system until Final Acceptance, or Partial Occupancy if applicable.
- .3 If the Project is a renovation of an existing building or structure, addition(s) to an existing building or structure, or any combination of new construction and renovation work that does not allow separate metering of utilities, the Owner shall pay the costs of energy consumed in operating the permanent HVAC system.

6.14.2.4 From the date of Final Acceptance, or Partial Occupancy if applicable, the Owner shall pay the cost of operating the permanent HVAC system for the occupied portion of the Project.

6.14.2.5 If the permanent HVAC system is used during construction, the Contractor shall furnish an extended warranty and service contract in effect until the expiration of the Correction Period.

6.14.3 Water and Drainage.

6.14.3.1 The Contractor shall provide water necessary for the Work until the permanent plumbing system is available for use.

6.14.3.2 The Contractor shall provide temporary drainage and dewatering necessary for the Work and shall employ pumps, trenches, drains, sumps, and other necessary elements required to provide satisfactory working conditions for the protection, execution, and completion of the Project.

6.14.3.3 The Contractor shall make arrangements and pay for installation and maintenance of temporary plumbing systems until the permanent plumbing system is available for use.

6.14.3.4 When the permanent plumbing system is complete and available for use:

- .1 The Contractor shall start up and maintain operation of the permanent plumbing systems, and make arrangements and pay for removal of temporary plumbing systems.
- .2 If the Project consists entirely of new construction, the Contractor shall pay the costs of water consumed and sewerage charges until Final Acceptance, or Partial Occupancy if applicable.
- .3 If the Project is a renovation of an existing building or structure, addition(s) to an existing building or structure, or any combination of new construction and renovation work that does not allow separate metering of utilities, the Owner shall pay the costs of water consumed and sewerage charges.

6.14.3.5 From the date of Final Acceptance, or Partial Occupancy if applicable, the Owner shall pay the costs of water consumed and sewerage charges for the occupied portion of the Project.

6.14.3.6 If the permanent plumbing system is used during construction, the Contractor shall furnish an extended warranty and service contract in effect until the expiration of the Correction Period.

#### 6.14.4 Electric Service.

6.14.4.1 The Contractor shall provide temporary light and power; pay the charges for temporary electric service installation, and removal if required.

6.14.4.2 If the Project consists entirely of new construction, the Contractor shall pay the cost of energy consumed until Final Acceptance of the Project, or Partial Occupancy if applicable.

6.14.4.3 If the Project is a renovation of an existing building or structure, addition(s) to an existing building or structure, or any combination of new construction and renovation work that does not allow separate metering of utilities, the Owner shall pay the cost of energy consumed.

6.14.4.4 From the date of Final Acceptance, or Partial Occupancy if applicable, the Owner shall pay the cost of energy consumed for the occupied portions of the Project.

6.14.4.5 If the permanent electrical system is used during construction, the Contractor shall furnish an extended warranty and service contract in effect until the expiration of the Correction Period.

#### 6.14.5 Hoisting Facilities.

6.14.5.1 The Contractor shall erect and maintain any hoisting equipment required for its Work.

6.14.5.2 If the electric service requirements of hoisting facilities differ from that available at the Site, the Contractor shall provide and pay for all necessary connections.

6.14.5.3 If a permanent elevator is identified in the Contract Documents to be used for hoisting materials or personnel during construction, the Contractor shall furnish an extended warranty and service contract in effect until the expiration of the Correction Period.

### 6.15 Progress Cleaning

6.15.1 The Contractor shall remove all waste materials, rubbish, and mud attributable to the Work to an appropriate disposal location at, or near, the Site.

6.15.2 The Contractor shall perform weekly broom cleaning of hard flooring surfaces in the area of the Work.

6.15.3 The Contractor shall remove, once each working day or as appropriate for the Project, all waste materials and rubbish from the disposal location at, or near, the Site.

6.15.4 The Contractor shall remove, as appropriate for the Project or as the A/E or Owner directs, any waste materials or rubbish from areas adjacent to the Project.

6.15.4.1 The Contractor shall dispose of waste materials, rubbish, and construction debris and in a lawful manner in approved recycling facilities or landfills.

6.15.5 If the Contractor fails to clean up during the progress of the Work, the Contracting Authority may clean up on behalf of the Contractor and at the Contractor's expense. If the Contractor fails to maintain the areas adjacent to the Project clean and free of waste materials and rubbish, the Contracting Authority may also direct the local jurisdiction responsible for the area to have the area cleaned to its satisfaction at the Contractor's expense.

6.15.5.1 The Contracting Authority may deduct the cleaning costs from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

6.15.6 The Contractor shall remove excavated material and spoil to a suitable off-site location approved by the Contracting Authority.

6.15.6.1 If the Owner designates a location on its property for disposal or storage of clean topsoil and/or subsoil in the Contract Documents, the Contractor shall remove such materials to the designated location.

## 6.16 Use of Premises

6.16.1 The Contractor shall use corridors, stairs, and elevators as designated by the Contracting Authority. The Contractor shall exercise extreme care to not exceed the carrying capacity of elevators or damage the cab interior in any way.

6.16.2 Loitering or wandering through interior of buildings or exterior grounds outside the limits of the Work will not be permitted.

6.16.3 The Contractor shall confine its apparatus, materials, and the operations of its workers to the limits indicated by law, ordinances, permits and the directions of the A/E or the Project Manager.

6.16.4 No signs or advertising of any kind will be permitted on or about the Site, except those appearing on trucks and trailers.

### 6.16.5 Site Logistics Plan.

6.16.5.1 The Contractor shall prepare a plan of the Site indicating how the Contractor intends to use the Site. The plan should illustrate, as an example, areas to be used for lay down of material and equipment; office and storage trailer locations; vehicular access gates with ingress and egress routes; locations of wheel wash and concrete truck wash out activities; and offloading and hoisting locations.

### 6.16.6 Smoking and Tobacco Products.

6.16.6.1 All State buildings are smoke free. Smoking will not be permitted in any indoor area. The ban on tobacco products will be observed in all indoor and outdoor areas and parking areas on all State-owned and leased property. The Contractor shall enforce these restrictions on any individual employed by the Contractor, or a Subcontractor.

## 6.17 Interruption of Existing Services

6.17.1 Whenever it becomes necessary to interrupt existing services in use by the Owner or its tenants, including but not limited to sewer, water, gas, and steam lines, electric, telephone, and cable service, the Contractor shall continue the associated Work on a non-stop 24-hour per day basis until that Work is completed and the service restored, or at an alternate time required by the Contracting Authority.

6.17.2 Before beginning that Work, the Contractor shall apply in writing to, and receive approval in writing from, the Owner, through the A/E, to establish a time when interruption of the service will cause a minimum of interference with the activities of the Owner and its tenants.

## 6.18 Explosives and Blasting

6.18.1 The Contractor shall not conduct blasting on, or bring explosives to, the Site without the prior written approval of the Contracting Authority, the Owner, and other authorities with jurisdiction.

6.18.2 The Contractor shall perform all blasting, storing, and handling of explosives as required under Applicable Law.

6.18.2.1 The Contractor shall carry appropriate liability insurance coverage, as required by the Contract Documents, for its blasting and explosives storage and handling operations. Immediately upon request, the Contractor shall deliver evidence of that insurance to the Contracting Authority.

## 6.19 Building Commissioning

6.19.1 If the Project scope includes building commissioning, the Contractor shall participate in the Commissioning Process, as prescribed in the Contract Documents.

6.19.2 The Contractor shall permit the A/E, or a third-party Commissioning Agent (“CxA”) if applicable, access to commission performance based equipment, fixtures, and/or systems (e.g., HVAC, fire protection, smoke evacuation, fume hoods, emergency power, etc.), prior to Final Acceptance, or Partial Occupancy if applicable.

6.19.3 The A/E, or the CxA if applicable, shall promptly notify, in writing, the Contractor of any deficiency identified during the Commissioning Process.

6.19.4 To facilitate the Commissioning Process, the Contractor shall submit 4 sets of Operation and Maintenance Manuals for dynamic and engineered systems to the A/E, and the CxA if applicable, for approval. This submission shall occur within 30 days following approval of all related Contractor submittals required by the Contract Documents.

## 6.20 Action Submittals

6.20.1 Submittal Description. Shop Drawings, Product Data, Samples, and other submittals for the A/E’s review and action shall be provided by the Contractor for any item required by the Contract Documents but not fully described in the Contract Documents, unless waived by the A/E, and include, but are not limited to:

6.20.1.1 construction of the various parts, method of joinery, type of materials, grade, quality and thickness of materials, alloy of materials, profiles of all sections, reinforcement, method of hanging doors or installing windows, anchorage, and type and grade of finish;

6.20.1.2 capacities, types of materials and performance charts that are pertinent to the materials, and performance charts that are pertinent to the equipment item; and

6.20.1.3 wiring diagrams, control diagrams, schematic diagrams, working and erection dimensions, arrangement and specifications.

6.20.2 Form of Submittals. The Contractor shall provide a transmittal letter, review and stamp its approval, and transmit the submittals to the A/E in accordance with a schedule established by the A/E and the Contractor.

6.20.2.1 The Contractor shall submit a minimum of 1 reproducible and 3 copies of Shop Drawings, and a minimum of 4 copies of any other submittal, except when using OAKS CI under Section 6.20.2.4.

6.20.2.2 The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to communicate to the A/E the materials and equipment which the Contractor proposes to provide.

6.20.2.3 Each Sample shall be identified clearly as to materials, supplier, pertinent data as catalog numbers, the intended use, and other uses as the A/E may require enabling the A/E to review the submittal.

6.20.2.4 If the Project is administered using OAKS CI, the Contractor shall submit electronic files of its submittals to the A/E, and the CxA if applicable, for review, using the "Submittals" business process.

6.20.3 Variation from Contract Documents. If the submittals show variations from the requirements of the Contract Documents, the Contractor shall specifically and clearly identify the variations in its letter of transmittal.

6.20.3.1 Variations which may affect the construction quality, cost or timeline shall be submitted by the A/E to the Contracting Authority for review, and if approved, shall be incorporated into the Work by Change Order.

6.20.3.2 The Contractor shall not be relieved of responsibility for deviations from the Contract Documents by the A/E's approval of submittals.

6.20.3.3 Submittals are not Contract Documents. In the event of conflicts between submittals and the Contract Documents, the Contract Documents take precedence and govern the Work.

6.20.4 Contractor's Submittal Review. The Contractor shall review and stamp "approved" all submittals before forwarding them to the A/E. If it is apparent to the A/E that the Contractor has not reviewed the submittals, or has conducted an incomplete review, the A/E may reject the submittals.

6.20.4.1 The Contractor shall field verify conditions as necessary and make corrections of dimensions, locations of various items, encroachments of work of Separate Contractors, or variations from the requirements of the Contract Documents.

6.20.4.2 If required by the Contract Documents or Applicable Law, the Contractor shall have Shop Drawings or other submittals prepared by Persons possessing expertise and experience in an appropriate trade or profession or by a registered architect, professional engineer, or other professional.

6.20.4.3 By approving and submitting submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements, and field construction criteria related to the associated Work, or shall do so, and has checked and coordinated the information contained within the submittals with the requirements of the Work and of the Contract Documents.

6.20.5 A/E's Submittal Review. The A/E shall review submittals for conformity with design intent within 14 days of receiving them or in accordance with the approved submittal schedule, or other period as mutually agreed by the A/E and the Contractor. The A/E's review of submittals is to determine if the items covered by the submittals will, after installation and incorporation into the Work, conform to the Contract Documents and be compatible with the design concept of the Project as a functioning whole.

6.20.5.1 The Contractor shall make corrections required by the A/E and resubmit the required number of corrected copies of submittals until approved, which resubmission shall be acted upon by the A/E within 14 days of receiving them, or other period as is mutually agreed by the A/E and the Contractor.

6.20.5.2 When resubmitting corrected submittals, the Contractor shall direct the A/E's attention to revisions made by noting revisions on the resubmittal.

6.20.5.3 The Contractor shall pay all reasonable costs of the A/E, the Owner, and the Contracting Authority for attendant delay, interference, hindrance or disruption of the Project due to excessive resubmittals without fault of the A/E, the Owner, or the Contracting Authority. Resubmittals in excess of 2 without fault of the A/E, the Owner or the Contracting Authority may be determined excessive by the Contracting Authority.

6.20.5.4 The A/E may hold Samples and other submittals used to coordinate finishes, colors, patterns, textures, or other characteristics until submittals for adjacent materials are available. The A/E shall issue a written notice to the Contractor stating that the submittal is being held, within 7 days of receiving it.

6.20.5.5 If coordinating submittals are not received within the period required for action on previously received submittals that are held in accordance with Section 6.20.5.4, review of the previously received submittals shall be delayed.

6.20.5.6 The A/E's review shall not extend to means, methods, manners, techniques, sequences, nor procedures of construction, or to safety precautions or incident programs.

6.20.5.7 The review and approval of a separate item shall not indicate approval of the assembly in which the item functions.

6.20.6 Risk of Nonpayment. The Contractor shall not commence any portion of the Work requiring Shop Drawings, Product Data, Samples, or other submittals until the submittal has been approved by the A/E. If the Contractor starts Work before the A/E's final approval of the submittal, the Contractor does so at its own risk that payment shall not be approved by the Contracting Authority or made by the Owner for the related Work.

6.20.7 Equipment Statement. Shop Drawings on equipment shall include the following written statement from the manufacturer of the equipment:

6.20.7.1 "This equipment submitted for approval shall perform as specified when installed by the Contractor in the arrangement shown on this drawing and in the Contract Documents and in conjunction with all other accessories as flues, breechings, piping, controls, and equipment not furnished by this manufacturer, but required as an accessory or supplement to this equipment, providing that the accessory or supplementary items perform as specified and are installed as shown in the Contract Documents."

.1 The Contractor will be deemed to have included the above statement as required even if the associated Shop Drawing does not actually contain the statement.

6.20.7.2 This equipment statement shall not be required for Samples, Product Data, and other standard submittals that are not created specifically for this Project.

## 6.21 Warranty

6.21.1 The Contractor warrants to the Contracting Authority and the Owner that all materials and equipment furnished under the Contract shall be new and of good quality unless otherwise required or permitted by the Contract Documents, that the Work shall be free from defects not inherent in the quality required or permitted, and that the Work shall conform to the requirements of the Contract Documents. Work not conforming to those requirements, including Substitutions not properly approved and authorized, may be considered Defective Work. If required by the A/E, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

6.21.1.1 If the Contractor or a Subcontractor recommends a particular product, material, system, or item of equipment for incorporation into the Project and the Owner accepts that recommendation, the above warranty includes a warranty from the Contractor to the Owner that the recommended product, material, system, or item of equipment is fit and appropriate for the associated purpose.

## 6.22 Uncovering the Work

6.22.1 If the Contractor covers Work contrary to the requirements of the Contract Documents or contrary to the written request of the Contracting Authority or the A/E, the Contractor shall, if the Contracting Authority or A/E requests in writing, uncover that Work for observation, correct it if not in conformity with the Contract Documents, and recover it at the Contractor's expense and without adjustment of the Contract Times.

6.22.2 If the Contractor covers Work in accordance with the Contract Documents and not contrary to a request from the A/E or the Contracting Authority for an opportunity to observe the Work prior to covering, the Contractor shall, if the A/E requests in writing, uncover that Work.

6.22.2.1 If the uncovered Work is Defective Work, the Contractor shall pay the costs of uncovering, correcting, and recovering the Work and shall not be entitled to an adjustment of the Contract Times.

6.22.2.2 If the uncovered Work is not Defective Work and the Contractor believes that it is entitled to an adjustment of the Contract Sum or Contract Times, or both, on account of the uncovering and recovering of the Work, the Contractor may request an adjustment to the Contract by giving written notice under Section 7.3.2.

## 6.23 Correction of the Work

### 6.23.1 Before Final Acceptance.

6.23.1.1 If the Contractor provides Defective Work or fails or neglects to perform the Work in accordance with the Construction Progress Schedule, the Contracting Authority or the A/E may issue a written notice to the Contractor and the Contractor's Surety directing the Contractor to correct the Defective Work or to recover schedule deficiencies. Unless otherwise specified in that written notice, the Contractor shall begin to correct the Defective Work and recover the schedule deficiencies within no more than three days after receiving the written notice ("72-Hour Notice").

### 6.23.2 After Final Acceptance.

6.23.2.1 In addition to the Contractor's other obligations under the Contract Documents, if during the Correction Period any of the Work is found to be Defective Work, the Contractor shall correct it promptly after receipt of written notice from the A/E, the Contracting Authority, or the Owner to do so, unless the Contracting Authority and the Owner have previously acknowledged and accepted the Defective Work in writing. The A/E, the Contracting Authority, or the Owner may send a copy of the written notice to the Contractor's Surety, but are not obligated to do so.

6.23.2.2 The 1-year period for correction of Work ("Correction Period") shall not be extended by corrective Work performed by the Contractor under this Section 6.23.2.

6.23.2.3 The Correction Period:

- .1 relates only to the Contractor's specific obligation and opportunity to correct the Work during the Correction Period;
- .2 does not establish a period of limitation with respect to any of the Contractor's other obligations under the Contract Documents;
- .3 has no relationship to the time within which the State or Owner may seek to enforce the Contract; and
- .4 does not establish a period of limitation within respect to the commencement of litigation to establish the Contractor's liability under the Contract or otherwise.

6.23.2.4 If the Contractor fails to promptly commence and diligently pursue correction of Defective Work under Section 6.23.1 or 6.23.2 after receiving notice to do so, the Owner may correct the Defective Work without giving further notice to the Contractor or the Contractor's Surety.

6.23.2.5 Notwithstanding any other provision of the Contract to the contrary, if in the Contracting Authority's or Owner's opinion the Defective Work presents a threat of imminent harm or danger to people, property, or the environment, the Contracting Authority or Owner may order the Contractor to immediately correct Defective Work or the Owner may correct the Defective Work itself without prior notice to the Contractor or the Contractor's Surety.

### 6.23.3 Responsibility for Costs of Correction.

6.23.3.1 The Contractor shall pay all of the costs and damages associated with the correction of Defective Work and the recovery of schedule deficiencies. Those costs and damages may include, but are not limited to, the related fees and charges of contractors, engineers, architects, attorneys, and other professionals; the cost of correcting or replacing adjacent work; and any consequential damages. The Contracting Authority may deduct those costs and damages from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

## 6.24 Acceptance of Defective Work

6.24.1 The Owner may accept any Defective Work instead of requiring its removal or correction, in which case the Contract Sum must be equitably reduced as described under 6.29.3.

6.24.1.1 The Owner may only accept Defective Work though a deduct Change Order which makes explicit reference to this Section 6.24.

6.24.2 None of the following will constitute (1) acceptance of Defective Work, (2) a release of the Contractor's obligation to perform the Work in accordance with the Contract, or (3) a waiver of any rights set forth in the Contract or otherwise provided by Applicable Law:

6.24.2.1 observations or inspections by the Owner, the Contracting Authority, or the A/E;

6.24.2.2 the making of any payment;

6.24.2.3 Final Acceptance or the issuance of a Partial or Final Certification of Contract Completion;

6.24.2.4 the Owner's use or occupancy of the Work or any part of it;

6.24.2.5 any review or approval of a submittal;

6.24.2.6 any inspection, test, or approval by other Persons; or

6.24.2.7 any correction of Defective Work by the Owner.

## 6.25 Final Cleaning

6.25.1 Before requesting the A/E's Punch List review, the Contractor shall clean the Site, remove waste materials and rubbish attributable to the Project, and restore the property to its original condition so that upon Contract Completion, the premises are ready for occupancy by the Owner.

6.25.2 If the Contractor performs any Work after final cleaning, the Contractor shall clean the affected area as provided above so that upon Contract Completion, the premises are ready for occupancy by the Owner.

6.25.3 Final cleaning shall be done to the reasonable satisfaction of the A/E and the Contracting Authority.

## 6.26 Punch List

### 6.26.1 Contractor's Punch List.

6.26.1.1 When the Contractor considers the Work, or a designated portion thereof, nearly complete the Contractor shall inspect the Work and prepare a list of Defective Work and incomplete or unacceptable Work ("Contractor's Punch List"). The Contractor shall list all items of Work not in compliance with the Contract Documents, including items the Contractor is requesting to be deferred.

- .1 The Contractor shall proceed to correct all items listed on the Contractor's Punch List and certify that the incomplete items listed on the Contractor's Punch List are to its knowledge an accurate and complete list by signing said Punch List.
- .2 The Contractor's failure to include an item on the Contractor's Punch List shall not alter the Contractor's responsibility to complete the Work in accordance with the Contract Documents.
- .3 The Contractor shall submit the signed Contractor's Punch List to the A/E, together with a request for the A/E's Review of the Work.

6.26.1.2 If the Project is administered using OAKS CI, the Contractor shall submit the Contractor's Punch List, using the "Punch List" business process.

### 6.26.2 A/E's Review of the Work.

6.26.2.1 Within 3 business days of receipt of the request for the A/E's Review of the Work, the A/E shall notify the Contractor of acceptance or rejection of the request, stating reasons for any rejection.

- .1 Within 7 days of its acceptance of the Contractor's request, the A/E shall conduct the A/E's Review to determine whether the Work, or the designated portion, is in conformity with the

Contract Documents. The A/E shall notify the Contractor, the Contracting Authority, and the Owner of the scheduled time of the A/E's Review.

- .2 Within 3 business days after the A/E's Review, the A/E shall provide to the Contractor a list of Defective, incomplete, or unacceptable Work ("A/E's Punch List"). The A/E shall include comments from the Contracting Authority and the Owner in the A/E's Punch List.
- .3 The A/E's failure to include an item on the A/E's Punch List shall not alter the Contractor's responsibility to complete the Work in accordance with the Contract Documents.
- .4 If the A/E accepts the request and subsequently determines that the Work is not in conformity with the Contract Documents, the A/E may request compensation for expenses related to excessive Punch List activities. The Contracting Authority may deduct that additional compensation to the A/E from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

#### 6.26.3 Completion of Punch List Items.

6.26.3.1 Within 30 days after receipt of the notice required by Section 6.26.2.1.2 and before the date of Final Contract Completion, the Contractor shall complete all items on the A/E's Punch List. After completing all items on the A/E's Punch List, the Contractor shall provide a written request for Final Inspection of the Work to the A/E.

- .1 If Work on the A/E's Punch List cannot be timely completed, the Contractor shall justify in writing to the reasonable satisfaction of the A/E the reasons the items cannot be completed, and the Contractor may propose, for the A/E's approval, a time when the Contractor shall complete those items.
- .2 Within 3 business days of receipt of the Contractor's notice that all Punch List items have been completed, the A/E shall complete a Final Inspection of the Work for compliance with the Contract Documents.
- .3 If multiple inspections of items on the A/E's Punch List are required due to the Contractor's failure to properly and timely complete them, the Contractor shall pay any additional costs incurred by the A/E, the Owner, and the Contracting Authority resulting from any attendant delay. The Contracting Authority may deduct those additional costs from payments then or thereafter due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover those amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

6.26.3.2 If the Project is administered using OAKS CI, the Contractor shall receive the A/E's Punch List and submit its written request for Final Inspection of the Work, using the "Punch List" business process.

### 6.27 Project Document Maintenance and Submittal

#### 6.27.1 During Construction.

6.27.1.1 The Contractor shall maintain in good order at a secure location on the Site:

- .1 a complete copy of all Contract Documents; Shop Drawings, Product Data, Samples and similar required submittals; manufacturer operating and maintenance instructions; certificates; warranties; RFIs and responses thereto; and other Project-related documents, all marked currently and accurately to record field changes and selections made during construction and to show actual installation where installation varies from Work as originally shown, including the exact location and depth of underground utility lines; and
- .2 a set of Drawings and Specifications, approved by the Ohio Department of Commerce, Division of Industrial Compliance, or its authorized representative, and the records required by Section 6.2.17.

6.27.1.2 Before submitting each Contractor Payment Request, the Contractor shall record all changes on the Contract Documents, neatly in a contrasting color, noting new information not shown on the original Contract Documents. Failure to record all changes may cause payment to be withheld or delayed by the Contracting Authority.

6.27.1.3 The Contractor shall keep a record of changes made to the Specifications, noting particularly any approved variation from manufacturer's installation instructions and recommendations.

6.27.1.4 If the Contractor uses Shop Drawings to indicate as-built conditions, the Contractor shall cross-reference the Shop Drawing sheet numbers to the corresponding sheet numbers on the Contract Documents. The Contractor shall note related numbers where applicable.

6.27.2 The Contractor shall at all times permit access to the documents described in this Section 6.27.1 to authorized representatives of the State, local authorities having jurisdiction, the Contracting Authority, the Owner, and the A/E.

6.27.3 Before Final Acceptance.

6.27.3.1 The Contractor, as a condition precedent to execution of the Certification of Contract Completion, release of retained funds, and final payment, shall organize the As-Built Documents into manageable sets, bind the sets with durable paper cover sheets, and deliver the As-Built Documents to the A/E.

6.27.3.2 The Contractor's As-Built Documents submission shall include, but is not limited to:

- .1 Certificate of Occupancy;
- .2 inspection certificates for pressure piping, elevator, boiler, electrical, plumbing or piping purification, etc.;
- .3 Letter of Approval from the local fire authority or State Fire Marshal for the fire suppression system;
- .4 Operation and Maintenance Manuals, organized into suitable sets of manageable size. Indexed data bound in individual binders, with pocket folders for folded sheet information and appropriate identification marked on the front and the spine of each binder;
- .5 neatly and accurately marked sets of As-Built Documents, and other Contract Documents reflecting the actual construction of the Project;
- .6 detailed Drawings reflecting the exact location of any concealed utilities, mechanical or electrical systems, and components;
- .7 assignment to the Owner of all warranties and guarantees, including the most-recent address and telephone number of any Subcontractors or manufacturers;
- .8 an affidavit to certify that all Subcontractors have been paid in full for all Work performed or materials furnished for the Project;
- .9 final certified payroll reports; and
- .10 an affidavit to certify that the Contractor and each of its Subcontractors, regardless of tier, have complied with all requirements of ORC Chapter 4115.

6.27.3.3 By submitting the As-Built Documents to the A/E, the Contractor certifies that the As-Built Documents are complete, correct, and accurate.

6.27.3.4 If the Project is administered using OAKS CI, the Contractor shall document submission of its As-Built Documents to the A/E, using the "Transmittals" business process.

6.27.4 Record Documents.

6.27.4.1 The A/E shall revise the original Contract Documents and related electronic files with the information contained on the As-Built Documents. The A/E shall label the revised original Contract Documents and related electronic files as "Record Documents" and reflect the date of the A/E's incorporation of the As-Built Documents.

6.27.4.2 The Owner may thereafter use the Record Documents for any purpose relating to the Project including, but not limited to, additions to or completion of the Project.

## 6.28 Demonstration and Training, Operating Appurtenances

6.28.1 The Contractor, as a condition precedent to execution of the Certification of Contract Completion, release of retained funds, and final payment, shall perform demonstration and training of the Owner's maintenance personnel as specified in the Contract Documents.

6.28.2 The Contractor, as a condition precedent to execution of the Certification of Contract Completion, release of retained funds, and final payment, shall organize and submit operating appurtenances and loose items related to the operation and maintenance of the completed Project to the Owner, including, but not limited to:

6.28.2.1 keys to door and window hardware, panels, and other devices not directly provided to the Owner from the manufacturer;

6.28.2.2 operating handles, levers, cranks, specialized wrenches or drivers, remote controls, and similar items; and

6.28.2.3 extra materials (e.g., attic stock).

6.28.3 If the Project is administered using OAKS CI, the Contractor shall document submission of its operating appurtenances to the Owner, using the "Transmittals" business process.

## 6.29 Certification of Contract Completion

### 6.29.1 Partial Completion.

6.29.1.1 When items of Work cannot be completed until a subsequent date, the A/E may recommend that these items be deferred and the Contracting Authority may release payment to the Contractor, as determined in the sole discretion of the Contracting Authority. The A/E shall list deferred items on a Partial Certification of Contract Completion with the dates the items are to be completed.

6.29.1.2 The date that the Contracting Authority executes the Partial Certification of Contract Completion is the date that the Correction Period commences, and retained funds may be released for that portion of the Work. Partial Acceptance is subject to Section 6.24.

### 6.29.2 Final Acceptance.

6.29.2.1 When all items on the A/E's Punch List have been completed to the satisfaction of the A/E, all requirements of the Contract Documents have been completed, and the provisions of Sections 6.24 through 6.28 have been fulfilled, the A/E shall prepare and recommend execution of a Final Certification of Contract Completion.

6.29.2.2 The date that the Contracting Authority executes the Final Certification of Contract Completion is the date that the Work of the Contract is accepted ("Final Acceptance"). If a Partial Certification of Contract Completion was not executed for the Contract, the date that the Contracting Authority executes the Final Certification of Contract Completion is the date that the Correction Period commences, and retained funds may be released. Final Acceptance is subject to Section 6.24.

6.29.2.3 If the Contractor escrowed its Bid Information, the Contracting Authority shall instruct the bonded storage facility to return the sealed container directly to the Contractor.

6.29.3 Notwithstanding any other provision of the Contract Documents, Partial Completion or Final Acceptance pursuant to this Section 6.29 constitutes neither acceptance of any Defective Work, nor a waiver of any rights set forth in the Contract Documents or otherwise provided by Applicable Law.

## ARTICLE 7 - CONTRACT MODIFICATIONS

### 7.1 General

7.1.1 The Contracting Authority may order changes in the Work without invalidating the Contract. Subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents, a change in the Work may be accomplished by a Change Order, Change Directive, or an order for a minor change in the Work.

7.1.1.1 The Contractor shall proportionately increase the amount of the Bond whenever the Contract Sum is increased.

7.1.1.2 If notice of any change affecting the Contract is required by the provision of any Bond, the giving of the notice is the contractor's responsibility, and the amount of each applicable Bond shall be adjusted accordingly.

7.1.2 The Contractor shall not proceed with any change in the Work without the Contracting Authority's prior written authorization except as provided under Sections 1.10 and 7.5.

7.1.2.1 Except as provided in Section 1.10, the Contractor's failure to obtain prior written authorization for a change in the Work constitutes a waiver by the Contractor of an adjustment to the Contract Sum or Contract Times, or both, for the related Work.

7.1.3 The Contractor shall perform all changes in the Work under the applicable provisions of the Contract Documents, and the Contractor shall proceed promptly with the change unless otherwise provided in the Change Order, Change Directive, or order for a minor change in the Work

#### 7.1.4 Paperwork Consolidation.

7.1.4.1 Related Contract modifications, with the same or similar justification (e.g., Owner Request or field resolution), may be consolidated into the same change-related document.

7.1.4.2 Add and deduct Contract modifications, with the same or similar justification, may be included on the same Change Order.

7.1.4.3 Contract modifications resulting from errors or omissions shall not be combined with other modifications for which the A/E will receive a fee.

#### 7.1.5 Change Order Numbering.

7.1.5.1 The A/E shall assign a number to each Modification, which shall uniquely identify it.

7.1.5.2 The A/E shall not duplicate or reuse any number throughout the Project or reuse assigned numbers for Proposal Requests that are initiated but cancelled in process.

7.1.5.3 The number for each Change Order shall be coordinated with any associated Proposal Request or Change Directive.

#### 7.1.6 Change Order Log.

7.1.6.1 The A/E shall create and maintain a Change Order Log for the Project, which shall contain the following minimum information:

- .1 number of the Modification;
- .2 a brief description of the Modification;
- .3 cost of the Modification;
- .4 schedule impact of the Modification; and
- .5 dates sent to, and received from, the parties.

#### 7.1.7 Reconciliation of Unit Price Items.

7.1.7.1 The Contracting Authority may increase, decrease, or delete entirely the scheduled quantities of Work to be performed and materials to be furnished by Change Order.

7.1.7.2 The A/E shall issue a Change Order to reconcile the difference between the scheduled and actual quantities of Work performed and materials furnished.

7.1.7.3 If the actual quantity of a Unit Price item differs from the scheduled quantity by 20 percent or more, so that application of the Unit Price to the quantities of Work proposed would create an undue hardship on either the Owner or the Contractor, the A/E shall issue a Proposal Request and subsequent Change Order to adjust the Unit Price.

7.1.7.4 If the actual quantity of a Unit Price item exceeds the scheduled quantity by 20 percent or more, the Contractor shall immediately notify the A/E, who shall issue a Change Directive and subsequent Change Order to authorize an adjustment in the scheduled quantity.

## 7.2 Change Order Procedure

7.2.1 A Change Order is a written instrument prepared by the A/E and executed by the Contracting Authority and the Contractor, stating their agreement upon all of the following:

7.2.1.1 a change in the Work;

7.2.1.2 the amount of the adjustment of the Contract Sum, if any; and

7.2.1.3 the extent of the adjustment of the Contract Times, if any.

7.2.2 Except with the Contracting Authority's written consent as explicitly provided under Section 7.4.8, the Contractor is not entitled to reserve any rights or take other similar action with respect to a Change Order if the effect or intent of the reservation or action would be to accommodate a further adjustment of the Contract Sum or Contract Times, or both, after the Contractor signs the Change Order. By signing a Change Order, the Contractor irrevocably certifies that the elements of a Change Order described in Section 7.2.1 are completely satisfied, and waives all rights, if any, to seek further adjustment of the Contract Sum or Contract Times, or both, at a later date with respect to the associated change in the Work including without limitation on account of the "cumulative impact" of the associated change in the Work in combination with one or more other changes in the Work.

7.2.3 The A/E shall prepare each Change Order form, attach the supporting documentation, and issue the Change Order to the Contractor for signature.

7.2.4 If the Contractor is in agreement with the Change Order under Section 7.2.1, the Contractor shall sign and return the Change Order to the A/E within 3 days of receiving it.

7.2.4.1 If the Project is administered using OAKS CI, the Contractor shall indicate its agreement with the Change Order using the "Change Order" business process.

7.2.5 When the A/E receives the Change Order signed by the Contractor, the A/E shall recommend approval by signing the form and transmitting the Change Order and the revised Change Order Log to the Owner.

7.2.6 When the Owner receives the Change Order, the Owner shall sign the form accepting the Change Order, attach certification of funding, and transmit the Change Order to the Contracting Authority; or, if the Owner does not accept the Change Order, the Owner shall reject it and return it to the A/E.

7.2.7 When the Contracting Authority receives the Change Order, the Contracting Authority shall sign the form approving the Change Order, and transmit the fully executed Change Order to all signers; or, if the Contracting Authority does not accept the Change Order, the Contracting Authority shall reject it and return it to the A/E.

7.2.8 When the Change Order is signed by the Contractor, the A/E, the Owner, and the Contracting Authority, the fully executed Change Order modifies the Contract Documents and authorizes and directs the Contractor to proceed, and the Contractor shall promptly proceed with the associated change in the Work.

## 7.3 Initiation of Change Orders

### 7.3.1 Proposal Request.

7.3.1.1 The A/E shall prepare and issue a Proposal Request to the Contractor to obtain the Contractor's Proposal for the adjustment of the Contract Sum or the Contract Times, or both, associated with a contemplated Modification.

- .1 In any Proposal for an adjustment of the Contract Sum, the Contractor shall specifically identify the items set forth in Section 7.7.
- .2 In any Proposal for an adjustment of the Contract Times, the Contractor shall specifically identify the items set forth in Section 7.8.
- .3 The Contractor's cost of preparing and providing Proposals is included in the Contract Sum.

7.3.1.2 The Contractor shall respond with a Proposal to the A/E and the Contracting Authority within 14 days after receiving the Proposal Request. The allowable time for the Contractor's response may be extended by written agreement of the Contractor and the A/E.

7.3.1.3 The Contractor shall hold the Proposal valid and open for acceptance for at least 45 days. The acceptance period may be adjusted by mutual consent of the Contractor and the Contracting Authority. The time limits described under this Section 7.3.1.3 apply only to Proposals submitted in response to a Proposal Request.

7.3.1.4 A Proposal may be accepted by the Contracting Authority only through a Change Order. A Proposal Request does not authorize the Contractor to proceed with a change in the Work.

7.3.1.5 If the Contractor does not timely submit a Proposal within the time required in Section 7.3.1.3, the Contractor waives its right to an adjustment to the Contract Sum or Contract Times, or both, associated with the contemplated change in the Work.

7.3.1.6 If the Project is administered using OAKS CI, the Contractor shall respond to a Proposal Request issued by the A/E with its Proposal using the "Change Order" business process.

### 7.3.2 Request for Change Order.

7.3.2.1 The Contractor may initiate a change in the Work by submitting written notice to the A/E accompanied by a Proposal meeting the requirements of Section 7.3.1.

7.3.2.2 If the Project is administered using OAKS CI, the Contractor shall initiate its Request for Change Order using the "Change Order" business process with the "Request for Change Order" workflow.

## 7.4 Change Directives

7.4.1 A Change Directive is a written order prepared by the A/E and executed by the Contracting Authority directing a change in the Work and may, if necessary:

- 7.4.1.1 state a proposed basis for adjustment, if any, in the Contract Sum or Contract Times, or both; or
- 7.4.1.2 limit the scope of the change in the Work on a time and materials basis, not to exceed a fixed adjustment of the Contract Sum.

7.4.2 If a change in the Work must start immediately to avoid an imminent impact to the schedule of the Project, the A/E may prepare a Change Directive for the Contracting Authority's and Owner's signatures pursuant to Section 7.4.1, authorizing the Contractor to proceed.

7.4.3 A Change Directive shall be used to direct a change in the Work in the absence of total agreement on the terms of a Change Order.

7.4.3.1 For the purposes of clarity, the Contract refers to a Change Directive as if it is only to be used in the absence of total agreement on the terms of a Change Order concerning the associated change of the Work. A Change Directive may also be used in the absence of agreement as to whether the subject of the Change Directive actually constitutes a change in the Work; such as in the situation described under Section 7.5.3.

7.4.4 Upon receipt of a Change Directive, the Contractor shall promptly proceed with the change in the Work involved.

7.4.5 The Contractor may sign the Change Directive to accept the proposed basis for adjustment, if any, of the Contract Sum or Contract Times, or both. Thereafter, the A/E shall prepare and the A/E, Contracting Authority, Owner, and Contractor shall promptly execute an associated Change Order as described under Section 7.2.

7.4.6 Within 14 days after receiving the Change Directive, the Contractor shall respond with a Proposal meeting the requirements of Section 7.3.1 to the A/E and the Contracting Authority for adjustment of the Contract Sum or Contract Times, or both, on account of the change, unless the Change Directive is performed on a time and materials basis under Section 7.4.1.2. If the Change Directive is performed on a time and materials basis, the Contractor shall submit its Proposal within 7 days after completing the Work.

7.4.6.1 The Proposal for the adjustment of the Contract Sum, if any, shall include: (1) written documentation as described under Section 7.7; and (2) a written statement from the Contractor that the proposed adjustment is the entire adjustment in the Contract Sum associated with the change.

7.4.6.2 The Proposal for the change in the Contract Times, if any, shall include: (1) written documentation as described under Section 7.8; and (2) a written statement from the Contractor that the proposed adjustment is the entire adjustment of the Contract Times associated with the change.

7.4.7 If the Contractor does not respond to a Change Directive as required under Section 7.4.5, the Contracting Authority shall determine the adjustments, if any, of the Contract Sum and Contract Times. If the Contractor does not agree with the Contracting Authority's determination, the Contractor shall initiate a Claim under Article 8 within 10 days of the date on which the Contracting Authority issues its determination, and the Contractor's failure to do so shall constitute an irrevocable waiver of the Claim.

7.4.8 Pending final determination of the total adjustment of the Contract Times on account of a Change Directive, the period of time not in dispute for that change in the Work may be included in the Construction Progress Schedule accompanied by a Change Order indicating the parties' agreement with part or all of the time adjustment.

7.4.9 If the Contracting Authority, Owner, and Contractor agree on the adjustments of the Contract Sum and Contract Times associated with a Change Directive, the A/E shall prepare an appropriate Change Order within 7 days after receiving the Contractor's Proposal. The A/E, Contracting Authority, Owner, and Contractor shall promptly sign the Change Order as described under Section 7.2.

7.4.10 If the Contracting Authority, Owner, and Contractor do not agree on the adjustments of the Contract Sum and Contract Times associated with a Change Directive within 60 days after the Change Directive is issued, the Contracting Authority shall determine the adjustments, if any, of the Contract Sum and Contract Times. If the Contractor does not agree with the Contracting Authority's determination, the Contractor shall initiate a Claim under Article 8 within 10 days of the date on which the Contracting Authority issues its determination, and the Contractor's failure to do so shall constitute an irrevocable waiver of the Claim.

7.4.11 If the Project is administered using OAKS CI, the Contractor shall respond to a Change Directive issued by the A/E with its Proposal using the "Change Order" business process.

## 7.5 Minor Changes in the Work

7.5.1 The A/E may order minor changes in the Work not involving adjustment of the Contract Sum or extension of the Contract Times and not inconsistent with the intent of the Contract Documents. Those changes shall be effected by written order issued to the Contractor.

7.5.2 The Contractor shall promptly carry out each order for a minor change in the Work if the Contractor agrees that the order does not involve adjustment of the Contract Sum or Contract Times, or both.

7.5.3 If the Contractor reasonably believes that it would be entitled to an adjustment of the Contract Sum or Contract Times, or both, on account of an order for a minor change in the Work, the Contractor, within 3 business days after receiving the order, shall give the Contracting Authority and the A/E written notice of the Contractor's position, and not proceed with the subject Work without first receiving a Change Directive or Change Order related to it.

7.5.4 The Contractor waives its right to an adjustment of the Contract Sum or Contract Times on account of an order for a minor change in the Work by:

7.5.4.1 starting the Work which is the subject of the order for a minor change in the Work; or

7.5.4.2 failing to give the notice described under Section 7.5.3 within 3 business days after receiving the order for a minor change in the Work.

7.5.5 If the Project is administered using OAKS CI, the order for a minor change in the Work shall be documented through the "Action Items" business process.

## 7.6 Differing Site Conditions

7.6.1 "If the Contractor encounters a Differing Site Condition, the Contractor shall stop Work on that Differing Site Condition and give immediate written notice of the condition to the A/E and the Contracting Authority.

7.6.1.1 The Contractor's failure to give notice of the Differing Site Condition as required under this Section 7.6.1 shall constitute an irrevocable waiver of any associated Claim.

7.6.1.2 The written notice of a Differing Site Condition under this Section 7.6.1 shall be required before the notice of Claim under Article 8.

7.6.2 Promptly after receiving notice from the Contractor under Section 7.6.1, the A/E shall investigate to determine whether the Contractor has encountered a Differing Site Condition. The A/E shall give written notice of its determination to the Contracting Authority and the Contractor within 10 days after completing the investigation.

7.6.2.1 If the A/E determines that the Contractor has encountered a Differing Site Condition, the A/E shall process an appropriate Change Order.

7.6.2.2 If the A/E determines that the Contractor has not encountered a Differing Site Condition and the Contractor does not agree with that determination, the Contractor must initiate a Claim under Article 8 within 10 days of the date on which the A/E issues its determination.

## 7.7 Change Order Cost or Credit Determination

### 7.7.1 General.

7.7.1.1 The maximum cost or credit resulting from a change in the Work shall be determined as described below.

- .1 Proposals shall include the information required by Section 7.7.1.4.
- .2 A Unit Price Proposal shall only be valid when incorporated into the Contract by Change Order.
- .3 The maximum cost or credit includes all compensation for impact costs. Additional costs for impacts shall not be allowed.

7.7.1.2 The Contractor shall not assign any portion of the Work to another Person whereby the Contractor would benefit directly or indirectly from the double application of charges for overhead or profit.

7.7.1.3 The Contracting Authority may require notarized invoices for material costs and may audit the records of the Contractor and Subcontractors.

7.7.1.4 For each change in the Work, the Contractor shall furnish a detailed Proposal itemized on the Change Order Estimate Summary form published by the Ohio Facilities Construction Commission through which the Contractor shall document the related changes in the Contract Sum as described under

Section 7.7.2. Any Subcontractor pricing shall also be itemized on the Change Order Estimate Summary form.

7.7.1.5 Section 7.7.2 establishes the exclusive and maximum amount that the Owner shall pay for any Change Order, including, but not limited to, all amounts for interference with, delay, hindrance, disruption, or impact of the Work (“Pricing Criteria”). These Pricing Criteria also govern the value of deduct Change Orders and the Contractor’s entitlement to additional compensation or damages through the Claims and dispute resolution processes on account of changes in the Work. In order to expedite the review and approval process, Proposals shall be prepared in the categories and order listed in Section 7.7.2.

## 7.7.2 Pricing Criteria.

7.7.2.1 Contractor Personnel Costs: The Contractor’s on-Site management (including supervision and administrative personnel) not subject to prevailing wage under to ORC Chapter 4115. These costs will be calculated on an hourly basis according to the rates acceptable to the Contracting Authority.

7.7.2.2 Labor: Field labor directly involved in the Work based upon the actual rate of pay to the worker. If the Project is subject to payment of prevailing wage rates, field labor shall be paid according to the relevant classification of labor as established in the applicable prevailing wage determination for the Project locality, as determined by the Ohio Department of Commerce, Wage and Hour Bureau.

- .1 The cost for supervision above the level of working foremen (such as general foremen, superintendent, project manager, etc.) is included in the adjustment under Section 7.7.2.1 for the Contractor and under Section 7.7.2.10 for Subcontractors.

7.7.2.3 Fringes: Fringe benefit credit for labor provided under Section 7.7.2.2 is only allowable for prevailing wage fringe benefits pursuant to ORC Chapter 4115, including, but not limited to, Health and Welfare, vacation, apprenticeship training, and certain types of pension plans. The parties shall defer to the Ohio Department of Commerce’s policy on which benefits are granted fringe benefit credit. Each fringe benefit for which credit is requested shall be calculated on an hourly basis and listed as a separate line item. The Contractor shall submit documentation supporting the calculation of the amounts for each fringe benefit for each worker classification, including labor provided by Subcontractors.

7.7.2.4 Allowable Payroll Expenses: Allowable payroll expenses for labor provided under Section 7.7.2.2 including payroll taxes as well as other benefits that are required by Applicable Law, such as federal and state Unemployment and Workers’ Compensation shall each be a separate line item and shall not be credited for compliance with ORC Chapter 4115.

7.7.2.5 Equipment Rentals: All charges for certain non-owned heavy or specialized equipment at up to 100 percent of the documented rental cost. No rental charges shall be allowed for hand tools, minor equipment, simple scaffolds, etc. Downtime due to repairs, maintenance and weather delays shall not be allowed. Contractor shall submit copies of actual paid invoices to substantiate rental costs.

7.7.2.6 Owned Equipment: All charges for certain heavy or specialized equipment owned by the Contractor or the Subcontractor performing the Work at up to 100 percent of the cost listed by the current edition of the Associated Equipment Dealers *Green Book* rental rates and specifications for construction equipment. No recovery shall be allowed for hand tools, minor equipment, simple scaffolds, etc. The longest period of time that the equipment is to be required for the Work shall be the basis for the pricing. Downtime due to repairs, maintenance, and weather delays shall not be allowed.

7.7.2.7 Trucking: A reasonable delivery charge or per-mile trucking charge for delivery of required materials or equipment. Charges for use of a pick-up truck shall not be allowed.

7.7.2.8 Materials: The actual cost (including all discounts, rebates or related credits) of all materials incorporated into the changed Work. Documentation shall show costs, quantities, or Unit Prices of all items, as appropriate.

- .1 The cost or credit for reusable materials (e.g., concrete form lumber, shoring, or temporary enclosures) shall be limited to 33 percent of the material cost for each use.

**7.7.2.9 Contractor's General Conditions Costs:** The Contractor's General Conditions Costs to the extent attributable to an associated change in the Contract Time for achievement of Final Acceptance resulting from the change in the Work.

- .1 In no event shall the Contract Sum adjustment per day of Contract Time adjustment exceed an amount equal to (1) the sum of the General Conditions Costs line items in the Contractor's Schedule of Values approved by the Contracting Authority, (2) divided by the total number of days of the original Contract Time for achievement of Final Acceptance.
- .2 The Contractor shall (1) exclude the Bond premium from the Schedule of Values for the purposes of the calculation under Section 7.7.2.9.1, and (2) include the actual adjustment of the Bond premium attributable to an associated change in the Contract Sum.
- .3 If the Contractor purchases the Builder's Risk insurance for the Project, the Contractor shall (1) exclude the Builder's Risk insurance premium from the Schedule of Values for the purposes of the calculation under Section 7.7.2.9.1, and (2) include the actual adjustment of the Builder's Risk insurance premium attributable to an associated change in the Contract Sum.

**7.7.2.10 Subcontractor Overhead and Profit:** Adjustment of the Contract Sum on account of a change in Subcontractor-performed Work shall include the Subcontractor's aggregate overhead and profit allowance equal to 15 percent of the sum of the Subcontractor's costs described under Sections 7.7.2.2 through 7.7.2.8 that are associated with that changed Work.

- .1 The allowance applies to each Subcontractor tier.
- .2 The allowance covers: the costs required to schedule and coordinate the Work, telephone, telephone charges, facsimile, telegrams, postage, photos, photocopying, hand tools, simple scaffolds (one level high), tool breakage, tool repairs, tool replacement, tool blades, tool bits, home office estimating and expediting, home office clerical and accounting support, home office labor (management, supervision, engineering), all other home office expense, legal services, travel, and parking expenses.
- .3 An exception is allowed for shop or engineering labor on items in Section 7.7.2.10.2, which shall not be subject to Prevailing Wage rates for steel fabricators, sheet metal fabricators, and sprinkler system fabricators performing work off-site. Recovery for these matters shall be allowed on an hourly basis under items in Sections 7.7.2.2, 7.7.2.3, and 7.7.2.4 of these Pricing Criteria.
- .4 An exception is allowed for field supervision labor on items in Section 7.7.2.10.2, for those portions of the Change Order Work that will be performed, or was performed, at times when the superintendent is not required to be on site under Section 6.4, including but not limited to overtime hours due to acceleration and extensions of the Contract Times. Recovery for this matter will be allowed on an hourly basis under items in Sections 7.7.2.2, 7.7.2.3, and 7.7.2.4 of these Pricing Criteria.

**7.7.2.11 Contractor's Fee:** Adjustment of the Contract Sum on account of a change in the Work shall include an allowance for the Contractor's Fee equal to 10 percent of the sum of the costs described under Section 7.7.2.1 through 7.7.2.10 that are associated with that changed Work.

**7.7.2.12 Miscellaneous:** Adjustment of the Contract Sum on account of a change in Work may include the following costs with no allowance for Contractor's Fee under Section 7.7.2.11 or Subcontractor overhead and profit under Section 7.7.2.10.

- .1 The premium portion only for approved overtime (labor and fringes). The straight time portion is included in items in Sections 7.7.2.2, 7.7.2.3, and 7.7.2.4.

**7.7.2.13** State sales tax shall be allowed on items as defined by Section 12.7.

**7.7.3** Costs that shall not be reimbursed for Change Order Work include the following:

**7.7.3.1** Voluntary employee deductions including, but not limited to, deductions for charitable donations or U.S. savings bonds.

### 7.7.3.2 Employee profit sharing.

## 7.8 Time Extension

7.8.1 Every adjustment of the Contract Times associated with any change in the Work shall be determined as provided in this Section 7.8, which establishes the Contractor's maximum entitlement for any change in the Work, including without limitation all adjustments for interference, delay, hindrance, or disruption of the Work. This Section 7.8 also governs time adjustments for deduct Change Orders and the Contractor's entitlement to additional time through the claims and dispute resolution processes on account of changes in the Work.

7.8.2 The Contractor shall substantiate all changes in the Contract Times with:

- 7.8.2.1 a written description of the nature of the interference, disruption, hindrance or delay;
- 7.8.2.2 identification of Persons and events responsible for the interference, disruption, hindrance or delay;
- 7.8.2.3 date, or anticipated date, of commencement of the interference, disruption, hindrance or delay;
- 7.8.2.4 identification of activities by schedule activity number and name on the Construction Progress Schedule, which may be affected by the interference, disruption, hindrance or delay, or new activities created by the interference, disruption, hindrance or delay and the relationship with existing activities;
- 7.8.2.5 anticipated duration of the interference, disruption, hindrance or delay and of any remobilization period;
- 7.8.2.6 specific number of days of extension requested and specific number of days for remobilization requested;
- 7.8.2.7 recommended action to avoid or minimize any future interference, disruption, hindrance or delay; and
- 7.8.2.8 a detailed written proposal as described under Section 7.7 for an increase in the Contract Sum which would fully compensate the Contractor for all costs of acceleration of the Work needed to completely overcome the associated delay, if any.

7.8.3 A Change Order may authorize extension of the Contract Times for specific elements, while maintaining Milestone dates for unaffected elements. Such a Change Order may also authorize an appropriate adjustment to Liquidated Damages.

7.8.4 Critical Path. Time extensions shall depend upon the extent to which the Work on the critical path of the Construction Progress Schedule is affected, if applicable.

- 7.8.4.1 A Change Order granting a time extension may provide that the Contract Times shall be extended for only those specific elements so interfered with, disrupted, hindered, or delayed and related remobilization and that remaining Milestone dates shall not be altered and may further provide for adjustment of Liquidated Damages.

## 7.9 Examination and Audit of Contractor's Records

7.9.1 The Contracting Authority and the Owner may examine all books, records, documents and other data of the Contractor and of all Subcontractors related to the bidding, pricing, or performance of the Work for the purpose of evaluating any Proposal or Claim.

7.9.2 The above referenced materials shall be made available at the office of the Contractor or Subcontractor, as applicable, at all reasonable times for inspection, audit, and reproduction until the expiration of 6 years after the date of Final Acceptance of the Project.

- 7.9.2.1 The Contractor shall maintain, and require all Subcontractors to maintain, complete and accurate business records at its principal place of business. If the principal place of business is greater than 50 miles from the Site, the Contractor shall timely make records available, and shall require its

Subcontractors to timely make records available, at the office of the Contracting Authority or the Owner upon request for the records.

7.9.3 To the extent that the Contractor or Subcontractor, as applicable, informs the Contracting Authority or the Owner in writing that any documents provided to the Contracting Authority or the Owner are trade secrets, the Contracting Authority or the Owner shall treat these documents, to the extent permitted by law, as trade secrets of the Contractor or Subcontractor, as applicable.

7.9.3.1 If a dispute arises with any other Person about whether that Person should be given access to the documents, the Contractor or Subcontractor as applicable, shall indemnify the Contracting Authority and the Owner against all costs, expenses, and damages, including, but not limited to, attorney fees, incurred or paid by reason of that dispute.

7.9.4 The right of inspection, audit, and reproduction extends to all documents necessary to permit adequate evaluation of the cost of pricing data submitted along with the computations and projections used therein.

7.9.5 If the Contract has been terminated, in whole or in part, the records relating to the Work terminated shall be made available to the Contracting Authority or Owner for a period of 6 years from the date of any applicable final settlement or payment, as applicable.

7.9.6 Records that relate to disputes, litigation, or settlement of Claims arising out of the performance of the Work shall be made available until the dispute, litigation or Claims have been finally decided or settled.

## ARTICLE 8 - DISPUTE RESOLUTION

### 8.1 Initiation of a Claim

8.1.1 Every Claim shall accrue upon the date of occurrence of the event giving rise to the Claim.

8.1.2 Except as provided under Section 1.10, the Contractor shall initiate every Claim by giving written notice of the Claim to the A/E and the Contracting Authority within 10 days after occurrence of the event giving rise to the Claim, with the following exceptions:

8.1.2.1 The 10-day time limit on initiating a Claim arising from a determination of the Contracting Authority concerning a Change Directive begins to run on the date on which the Contracting Authority issues its determination under Section 7.4.7 or 7.4.10, as applicable.

8.1.2.2 The 10-day time limit on initiating a Claim arising from the response of the A/E to a Request for Interpretation begins to run on the date on which the A/E issues the A/E's response to the Request for Interpretation.

8.1.2.3 The 10-day time limit on initiating a Claim arising from the A/E's determination concerning a Differing Site Condition begins to run on the date on which the A/E issues the A/E's determination under Section 7.6.

8.1.3 The Contractor's written notice of a Claim shall provide the following information to permit timely and appropriate evaluation of the Claim, determination of responsibility, and opportunity for mitigation:

8.1.3.1 nature and anticipated amount of the impact, including all costs for any interference, disruption, hindrance, or delay, which shall be calculated in accordance with Section 7.7 and be a fair and reasonably accurate assessment of the damages suffered or anticipated by the Contractor;

8.1.3.2 identification of the circumstances responsible for causing the impact, including, but not limited to, the date or anticipated date, of the commencement of any interference, disruption, hindrance, delay;

8.1.3.3 identification of activities on the Construction Progress Schedule which will be affected by the impact or new activities which may be created and the relationship with existing activities;

8.1.3.4 anticipated impacts and anticipated duration of any interference, disruption, hindrance, delay, or impact, and any remobilization period; and

8.1.3.5 recommended action to avoid or minimize any interference, disruption, hindrance, delay, or impact.

8.1.4 The Contractor's failure to initiate a Claim as and when required under this Section 8.1 shall constitute the Contractor's irrevocable waiver of the Claim.

8.1.5 The A/E, in consultation with the Contracting Authority, shall respond to the written notice of the Claim within a reasonable time of receipt, but not to exceed 10 days.

## 8.2 Substantiation of Claims

8.2.1 Within 30 days after the initiation of a Claim, the Contractor shall submit 4 copies of all information and statements required to substantiate a Claim as provided in this Article 8 and all other information which the Contractor believes substantiates the Claim. The Contractor shall file the 4 copies by delivery of 1 copy to the A/E, 1 copy to the Owner, and 2 copies to the Contracting Authority.

8.2.2 The Contractor shall substantiate all of its Claims by providing the following minimum information:

8.2.2.1 a narrative of the circumstances, which gave rise to the Claim, including, without limitation, the start date of the event or events and the actual, or anticipated, finish date;

8.2.2.2 detailed identification of the Work (e.g., activity codes from the Construction Progress Schedule) affected by the event giving rise to the Claim;

8.2.2.3 copies of the Contractor's daily log (Section 6.2.17) for each day of impact;

8.2.2.4 copies of relevant correspondence and other information regarding or supporting Contractor entitlement;

8.2.2.5 copies of the Contractor's most recent income statement, including segregated general and administrative expenses for the most recent reporting period, and for the period of the Contract, if available, and similar information for any Subcontractor Claim included; and

8.2.2.6 the notarized certification described under Section 8.5.1.1;

8.2.3 The Contractor's failure to comply with the requirements of this Section 8.2 shall constitute an irrevocable waiver of any related Claim.

## 8.3 Substantiation of Claims for Increase of the Contract Sum

8.3.1 The Contractor shall substantiate each Claim for an increase of the Contract Sum with:

8.3.1.1 written documentation as described under Section 7.7 of the actual additional direct and indirect costs to the Contractor due to the event giving rise to the Claim;

8.3.1.2 a written statement from the Contractor that the increase requested is the entire increase in the Contract Sum associated with the Claim; and

8.3.1.3 the general substantiation documentation described under Section 8.2.

8.3.2 The Contractor's failure to comply with the requirements of this Section 8.3 shall constitute an irrevocable waiver of any related Claim.

## 8.4 Substantiation of Claims for Extension of the Contract Times

8.4.1 The Contractor shall substantiate each Claim for an extension of the Contract Times with:

8.4.1.1 written documentation as described under Section 7.8 of the actual delay to the critical path of the Construction Progress Schedule due to the event giving rise to the Claim;

8.4.1.2 a detailed written Proposal as described under Section 7.7 for an increase in the Contract Sum which would fully compensate the Contractor for all costs of acceleration of the Work needed to completely overcome the associated delay together with a statement consistent with Section 8.3.1.2;

8.4.1.3 a written statement from the Contractor that the extension requested is the entire extension of the Contract Times associated with the Claim; and

8.4.1.4 the general substantiating documentation described under Section 8.2.

8.4.2 In addition to the requirements of Section 8.4.1, if adverse weather conditions are the basis for a Claim for additional time, the Contractor shall document the Claim with data substantiating that weather conditions were abnormal for the period, could not have been reasonably anticipated, and had an adverse effect on a critical element of the scheduled construction. The support for and evaluation of all adverse weather Claims shall be based upon average weather conditions during the 10 years immediately preceding the dates at issue in the Claim as those weather conditions were recorded at the government-controlled weather-recording facility nearest to the Site.

8.4.3 The Contractor's failure to comply with the requirements of this Section 8.4 shall constitute an irrevocable waiver of any related Claim.

## 8.5 Certification of the Claim

8.5.1 The Contractor shall certify each Claim within 30 days after initiating the Claim under Section 8.1 or before Contract Completion, whichever is earlier, by providing the notarized certification specified in Section 8.5.1.1, signed and dated by the Contractor:

8.5.1.1 "The undersigned Contractor certifies that the Claim is made in good faith; that the supporting data is accurate and complete to the best of the Contractor's knowledge and belief; that the amount requested is a fair, reasonable, and necessary adjustment for which the Contractor believes the State is liable; and that the undersigned is duly authorized to certify the Claim on behalf of the Contractor."

8.5.2 The date that the Contractor's certified and fully substantiated Claim is received by the Contracting Authority, or the date on which the Contractor is required to certify and fully substantiate a Claim pursuant to Sections 8.2.1 and 8.5.1, shall trigger the 120-day period for exhaustion of administrative remedies pursuant to ORC Section 153.16(B).

8.5.3 The Contractor's failure to comply with the requirements of this Section 8.5 shall constitute an irrevocable waiver of any related Claim.

## 8.6 Delay and Delay Damage Limitations; Derivative Claims

8.6.1 Subject to other provisions of the Contract, the Contractor will be entitled to an extension of the Contract Times on account of delay in the commencement or progress of Work on the critical path of the Construction Progress Schedule caused by acts of Nature or the public enemy, acts of the government not arising from the Contractor's failure to comply with Applicable Law, fires, floods, epidemics, weather, and labor disputes beyond the Contractor's control.

8.6.2 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum, or an extension of the Contract Times, or both:

8.6.2.1 on account of the impact of any normal adverse weather on any of the Work or on account of the impact of any abnormal adverse weather on Work not on the critical path;

8.6.2.2 to the extent that a delay occurs concurrently with a delay attributable to the Contractor; or

8.6.2.3 on account of the delay of any Work not on the critical path.

8.6.3 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum or any type of damages on account of a delay in the commencement or progress of Work on the critical path unless (1) the delay is caused by the Owner and (2) the delay was not authorized or permitted under the Contract.

8.6.4 Notwithstanding any other provision of the Contract Documents to the contrary, the Contractor shall not be entitled to an increase in the Contract Sum or any type of damages arising from a delay in the commencement or progress of any of the Work caused by the occurrence or non-occurrence of an event beyond the Owner's control such as acts of Nature or the public enemy, acts of the government, fires, floods, epidemics, labor disputes, unusual delivery delays, weather, or damages caused by the Contractor.

8.6.5 Notwithstanding any other provision of the Contract to the contrary, if the Owner prosecutes a claim, suit, or appeal against a Separate Consultant or a Separate Contractor to recover damages the Contractor suffers on account of the acts or neglects of a Separate Consultant or a Separate Contractor or a person or entity for whom either is legally responsible, the Owner's liability to the Contractor will not exceed the amount the Owner actually recovers from the Separate Consultant or the Separate Contractor on account of those damages less the costs the Owner incurs recovering them. The Owner is not obligated to prosecute any such claim, suit, or appeal.

## 8.7 Liquidated Damages

8.7.1 If the Contractor fails to achieve a Milestone within the associated Contract Time, it would be difficult, if not impossible, to determine the Owner's resulting damages. Therefore, if the Contractor fails to achieve a Milestone within the associated Contract Time, the Contractor shall (at the Owner's option) pay to or credit the Owner the Liquidated Damages per day sum determined according to the following schedule for each day that the Contractor fails to achieve a Milestone within the associated Contract Time.

Contract Sum	Liquidated Damages per day
Less than \$1,000,000	\$500
From \$1,000,000.01 to \$2,000,000	\$1,000
From \$2,000,000.01 to \$5,000,000	\$2,000
From \$5,000,000.01 to \$10,000,000	\$5,000
From \$10,000,000.01 to \$20,000,000	\$10,000
From \$20,000,000.01 to \$50,000,000	\$20,000
More than \$50,000,000	\$50,000

8.7.2 If the Contractor simultaneously fails to achieve two or more Milestones, the Owner shall be entitled to recover the sum of the associated Liquidated Damages per day rates.

8.7.3 The Liquidated Damages described in this Section 8.7 are only intended to compensate the Owner for the direct damages it incurs as a result of the Contractor's failure to achieve the Milestones within their associated Contract Times.

8.7.4 The Liquidated Damages described in this Section 8.7 are not intended to compensate the Owner for any damages the Owner incurs on account of (1) any claims attributable to the Contractor that are brought by others including Separate Consultants and Separate Contractors or (2) any failure of the Contractor to timely, properly, and completely perform the Contract other than the failure to achieve the Milestones within their associated Contract Times.

8.7.5 The parties acknowledge that the above-listed Liquidated Damages per day sums are not penalties, and they each irrevocably waive the right (if any) to challenge the validity and enforceability of those Liquidated Damages per day sums. Notwithstanding any other provision of the Contract Documents to the contrary, if a court determines that the Liquidated Damages per day sums or their application are void and unenforceable, the Owner shall be entitled to recover the actual damages that it incurs on account of the Contractor's failure to achieve one or more of the Milestones within the Contract Times.

8.7.6 Nothing contained in this Section 8.7 shall preclude the Owner's recovery from the Contractor of actual damages.

8.7.7 In addition to other rights that the Owner may have relative to the Liquidated Damages, the Contracting Authority may deduct the Liquidated Damages from the Contract Sum as the damages accrue. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall immediately pay the amount of the insufficiency to the Owner.

## 8.8 Review of the Claim

8.8.1 The A/E shall review the Claim and prepare a written analysis of its content, which shall include:

8.8.1.1 a narrative of the A/E's examination of the facts giving rise to the Claim;

8.8.1.2 identification of relevant Contract Documents and language;

8.8.1.3 an analysis of whether the Contractor complied with the requirements of the Contract Documents pertaining to Claim initiation and substantiation including, without limitation, the issues of entitlement to, and calculation of, adjustments of the Contract Sum, Contract Times, or both;

8.8.1.4 an analysis of claimed additional labor, materials, and equipment for the scope of the Work items described;

8.8.1.5 an analysis of any time extension for any interference, disruption, hindrance, impact, or delay claimed (to include the calculation of any concurrent delays affecting entitlement);

8.8.1.6 a concluding opinion regarding Contractor entitlement to, and the appropriateness and reasonableness of all, or any part of, the Claims; and

8.8.1.7 an appendix containing copies of contemporaneous documentation supporting the concluding opinion.

8.8.2 The A/E shall submit the written analysis to the Project Manager no more than 30 days after receiving the Contractor's substantiated and certified Claim.

## 8.9 Claim Decision

8.9.1 The Project Manager shall examine the Contractor's Claim and the A/E's analysis.

8.9.2 The Project Manager shall approve or deny all, or any part, of the Contractor's Claim and forward a written decision to the Contractor, the A/E, the Owner, and the Commission within 14 days after receiving the A/E's analysis.

8.9.2.1 If the Contractor escrowed its bid information into a bonded storage facility pursuant to Article 6 of the Instructions to Bidders ("Bid Information"), the Project Manager may examine the contents of the Contractor's Bid Information in evaluating any Claim of the Contractor for a change in compensation or for mitigation of Liquidated Damages.

8.9.2.2 The Project Manager may employ independent resources to assist in its review, or refer evaluation of the Claim to a consultant.

8.9.3 If the Contractor and the Owner agree with the Project Manager's decision, the decision shall be incorporated into a Change Order.

8.9.4 Any Claim remaining unresolved after completion of the process described under this Section 8.9 shall be subject to Claim decision review as described under Section 8.10.

## 8.10 Claim Decision Review

8.10.1 The Contractor may request review of the Project Manager's decision by written notice delivered by certified mail within 14 days of the Project Manager's decision.

8.10.1.1 If the Project is administered by the Commission, jointly administered by the Commission and a public school district, or locally administered by authority granted to an agency of the state of Ohio by the Commission, the written notice shall be delivered to the Executive Director of the Commission.

8.10.1.2 If the Project is locally administered by an Institution of Higher Education under ORC Section 3345.50 or ORC Section 3345.51, the written notice shall be delivered to the Institutional Designee who will review the Project Manager's decision instead of the Commission.

8.10.2 The Commission or Institutional Designee, if applicable, shall schedule and conduct a meeting within 30 days after receiving the Contractor's request for review.

8.10.2.1 If the Contractor escrowed its Bid Information, the Commission or Institutional Designee, if applicable, may examine the contents of the Bid Information in conjunction with its review.

8.10.2.2 The Contracting Authority may employ independent resources to assist in the meeting and review.

8.10.3 The Commission or Institutional Designee, if applicable, shall determine the final disposition of the Contractor's request for review and provide a written decision to the Contractor and the Owner within 14 days after the meeting.

8.10.4 The decision of the Commission or Institutional Designee is the final administrative decision of the Contracting Authority as described under ORC Section 153.12(B).

8.10.5 If the Contractor and the Owner agree with the Commission's or Institutional Designee's decision, the decision shall be incorporated into a Change Order.

8.10.6 Any Claim remaining unresolved after completion of the process described under this Section 8.10 shall be subject to litigation, which may be preceded by Alternative Dispute Resolution ("ADR") as described under Section 8.12.

## 8.11 Delegation

8.11.1 No provision of this Article 8 shall prevent the Executive Director from delegating the duties or authorities of the Commission to any other person selected at the Executive Director's sole discretion.

## 8.12 Alternative Dispute Resolution

8.12.1 The intent of the ADR process is to resolve disputes quickly and equitably in a manner agreed upon by all parties to the dispute.

8.12.2 The ADR procedure shall be accepted by all of the Project's key stakeholders.

8.12.3 The accepted ADR methods shall not include binding arbitration; alter any of the requirements for Claim initiation, certification, and substantiation; or alter the administrative process described under this Article 8.

8.12.4 The following forms of non-binding ADR may be considered:

8.12.4.1 Negotiation: If negotiation is warranted, the parties to the dispute may agree to a progressive level of negotiators, invested with the authority to agree to a determination of an adjustment in the Contract Sum, Contract Times, or both.

8.12.4.2 Mediation: If mediation is the accepted ADR procedure, or the process to follow when negotiations are unsuccessful, the parties to the dispute shall accept a neutral third party to mediate the dispute. The costs of mediation shall be shared equally among the parties to the dispute.

8.12.4.3 Another ADR procedure accepted by all of the Project's key stakeholders.

## 8.13 Audit of the Claim

8.13.1 All Claims shall be subject to audit at any time following the filing of the Claim, whether or not the Claim is part of a lawsuit.

8.13.2 The audit may be performed by employees of the Contracting Authority or by a consultant engaged by the Contracting Authority.

8.13.3 The audit may begin upon 10 days notice to the affected Contractor or affected Subcontractor.

8.13.4 The Contractor shall cooperate with the request.

8.13.5 Failure of the Contractor or Subcontractor to produce sufficient records to allow the Contracting Authority to audit and verify a Claim shall constitute an irrevocable waiver of the Claim or the portion of the Claim that could not be completely audited.

8.13.6 The Contractor shall make available to the Contracting Authority all Contractor and Subcontractor documents related to the Claim including, without limitation, the following documents:

8.13.6.1 daily time sheets and superintendent's daily reports;

8.13.6.2 union agreements, if any, and employer agreements;

8.13.6.3 insurance, welfare, fringes, and benefits records;

8.13.6.4 payroll register;

8.13.6.5 earnings records;

8.13.6.6 payroll tax returns;

8.13.6.7 material invoices, purchase orders, Subcontractor contracts, and all material and supply acquisition contracts;

8.13.6.8 material cost distribution worksheets;

8.13.6.9 equipment records (list of Contractor equipment, rates, etc.);

8.13.6.10 vendor rental agreements and Subcontractor invoices;

8.13.6.11 Subcontractor payment certificates;

8.13.6.12 canceled checks (payroll and vendors);

8.13.6.13 job cost report;

8.13.6.14 job payroll ledger;

8.13.6.15 general ledger, general journal, (if used) and all subsidiary ledgers and journals together with all supporting documentation pertinent to entries made in these ledgers and journals;

8.13.6.16 cash disbursements journal;

8.13.6.17 financial statements for all years reflecting operations on the Project;

8.13.6.18 income tax returns for all years reflecting operations on the Project;

8.13.6.19 depreciation records on all equipment utilized whether the records are maintained by the Contractor, its accountant, or others;

8.13.6.20 if a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all other source documents;

8.13.6.21 all documents which reflect the Contractor's actual profit and overhead during the years the Project was being performed;

8.13.6.22 all documents related to the preparation of the Contractor's Bid, including the final calculations on which the Bid was based, unless the documents are placed in escrow under provisions of the Instructions to Bidders;

8.13.6.23 all documents which relate to the Claim together with all documents which support the amount of damages as to the Claim;

8.13.6.24 worksheets used to prepare the Claim establishing the cost components for items of the Claim including, but not limited to, labor, fringes, benefits and insurance, materials, equipment, Subcontractors, and all documents which establish the time periods, individuals involved, the hours and rate of pay for the individuals; and

8.13.6.25 all other documents required by the Contracting Authority to reasonably review the Claim.

#### 8.14 False Certification of the Claim

8.14.1 If the Contractor falsely certifies all, or any part, of a Claim, the portion of the Claim falsely certified shall be denied, and may be sufficient cause for the State to debar the Contractor from future State contracting opportunities as permitted by law.

#### 8.15 Performance and Payment

8.15.1 The Contractor shall proceed with the Work during any dispute resolution process, unless otherwise agreed by the Contractor and the Contracting Authority in writing.

8.15.2 The Contracting Authority shall continue to make payment of any undisputed amounts in accordance with the Contract Documents pending final resolution of a Claim, unless otherwise agreed by the Contractor and the Contracting Authority in writing.

### ARTICLE 9 - COMPENSATION AND PAYMENT

#### 9.1 Allowances

9.1.1 The Contract Sum includes the Allowances (if any) identified in the Contract.

9.1.2 All Allowances include the cost to the Contractor (less any applicable trade discounts) of materials and equipment required by the Allowances to be delivered at the Site, and all applicable taxes.

9.1.3 Except as explicitly set forth in the Contract, the Contractor's Fee and the Contractor's costs for unloading and handling on the Site, labor, installation costs, and other expenses contemplated for the Allowances are included in the Contract Sum and not in the Allowances.

9.1.4 Before final payment, an appropriate Change Order will be issued to reflect actual amounts due to the Contractor on account of Work covered by Allowances, and the Contract Sum will be correspondingly adjusted.

#### 9.2 Unit Prices

9.2.1 Where the Contract provides that all or part of the Work is to be Unit Price Work, initially the Contract Sum will include for all Unit Price Work an amount equal to the sum of the established Unit Prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Contract. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Sum. The Contracting Authority will determine the actual quantities and classifications of Unit Price Work performed by Contractor.

9.2.2 Except as explicitly set forth in the Contract, the Contractor's Fee on account of Unit Price Work is included in the Contract Sum and not in the Unit Price.

#### 9.3 Schedule of Values

9.3.1 Within 10 days of receipt of the Notice to Proceed, or other period as mutually agreed by the Contractor and the Contracting Authority, the Contractor shall submit to the A/E a Schedule of Values on a form published by the Commission, with separate amounts shown for labor and materials for each branch of Work, following the numbers and titles of the Construction Specifications Institute's *MasterFormat* for individual work results, or *UniFormat* for assemblies in place.

9.3.1.1 The Contractor shall clearly indicate on the Schedule of Values, the amount(s) allocated, including amounts for overhead and profit, for each certified EDGE Business Enterprise used in the performance of the Work. The amount(s) shall indicate labor and materials, as appropriate.

9.3.2 The grand total shown on the Schedule of Values shall equal the total Contract Sum. The Contracting Authority may use the approved Schedule of Values to determine the cost or credit to the Owner resulting from any change in the Work.

9.3.2.1 The first items shall be a breakdown of General Conditions Costs.

9.3.2.2 The amounts for labor and materials shall accurately reflect the cost for each item.

9.3.2.3 If the material allocation exceeds 55 percent of the Contract Sum, the Contractor shall provide, upon request, sufficient information to support the higher percentage.

9.3.2.4 Subcontract Work shall show amounts for labor and materials. Fringe benefits shall be shown as a part of labor costs.

9.3.2.5 When more than one major structure is included in the Work, the Contractor shall subdivide the Schedule of Values accordingly, with cost details for each structure shown separately.

9.3.2.6 The line items shall be coordinated with line items in the Project Schedule, which may require division of items of Work by area of the Project by floor, phase, or other appropriate area.

9.3.2.7 Mechanical and electrical Work shall be included in separate line items for all major pieces of equipment, and group smaller equipment items by type.

9.3.2.8 Line items shall be included for each Allowance, Contractor's Fee, Punch List Work, Project Record Document Submittals, delivery of attic stock, and specified demonstrations and training.

9.3.3 The A/E may return the Schedule of Values to the Contractor for re-submittal if it does not meet the requirements or contains insufficient items or details of the Work, or approve the Schedule of Values if the A/E determines that it conforms to this Section 9.3.

9.3.4 No payment shall be made until the A/E has approved the Contractor's Schedule of Values.

9.3.5 If the Project is administered using OAKS CI, the Contractor shall submit its Schedule of Values, using the "Contract Schedule of Values" business process.

#### 9.4 Contractor Payment Request

9.4.1 The Contractor may submit a Contractor Payment Request for Work performed based upon the Schedule of Values to the A/E each month or upon another interval approved by the Contracting Authority. When the rate of Work and amount involved is sufficient that it is considered appropriate by the Contracting Authority, the Contractor may submit Contractor Payment Requests twice a month.

9.4.1.1 The Contractor shall support each Contractor Payment Request with documentation substantiating the Contractor's right to payment. The Contractor shall supply additional documentation as the A/E may request in connection with each payment to the Contractor.

9.4.1.2 The Contracting Authority may require proof of the renewal of required insurance as a condition precedent to payment.

9.4.1.3 The Contractor shall attach certified payroll reports for the relevant period to 1 copy of each Contractor Payment Request, see Document 00 73 43 - "Prevailing Wage Requirements."

9.4.1.4 The Contractor may list on the Contractor Payment Request any Change Orders approved and performed prior to submission of the Contractor Payment Request.

9.4.1.5 The Contractor shall submit its application for payment using the Contractor Payment Request form or forms current at the time of each application and as provided by the Contracting Authority in the manner prescribed by the Contracting Authority.

- .1 If the Project is not administered using OAKS CI, the Contractor shall submit 1 draft copy of its Contractor Payment Request ("Pencil Copy") to the A/E not less than 1 week prior to submitting multiple copies of its Contractor Payment Request.

- .2 The A/E shall review the Pencil Copy and provide comments to the Contractor within 3 days of receiving it.
- .3 The Contractor shall incorporate the A/E's comments into its Contractor Payment Request prior to submitting multiple copies for payment.

9.4.1.6 The Contractor shall clearly indicate on the Contractor Payment Request, the amount(s) requested for each certified EDGE Business Enterprise used in the performance of the Contract. The amount(s) shall indicate labor and materials, as appropriate.

9.4.1.7 The Contractor shall submit an electronic copy of the Contractor Payment Request to the A/E with its paper copies of the Contractor Payment Request for collection and reporting of information used for contract compliance evaluation and statistical purposes. The Contractor may issue the copy in any electronic media acceptable to the Contracting Authority.

9.4.2 Payments, except for lump sum items, in Unit Price Contracts shall be made to the Contractor only for the authorized actual quantities of Work performed or materials furnished in accordance with the Contract Documents.

9.4.3 Subject to Section 9.8, the Owner shall pay an approved Contractor Payment Request within 30 days from the date the A/E recommends acceptance of the Contractor Payment Request.

9.4.3.1 Payments due and not paid to the Contractor, through no fault of the Contractor, within the 30 day period shall, from the date payment is due, bear simple interest at the applicable statutory rate.

9.4.4 Notwithstanding any other provision of the Contract Documents, partial payments made pursuant to this Section 9.4 constitutes neither acceptance of any Defective Work, nor a waiver of any rights set forth in the Contract Documents or otherwise provided by Applicable Law.

9.4.5 If the Project is administered using OAKS CI, the Contractor shall submit its Contractor Payment Request, using the "Contractor Pay Request" business process.

## 9.5 Labor Payments

9.5.1 Partial payments to the Contractor for labor performed under either a Unit Price or lump sum Contract shall be made at the rate of 92 percent of the amount invoiced through the Contractor Payment Request that shows the Work is 50 percent complete, as evidenced by payments in the amount of at least 50 percent of the original Contract Sum.

9.5.2 After the Work is 50 percent complete, as evidenced by payments in the amount of at least 50 percent of the original Contract Sum to the Contractor, no additional funds shall be retained from payments for labor.

## 9.6 Material Payments

9.6.1 The Owner shall pay the Contractor at the rate of 100 percent of the scheduled value for materials incorporated into the Project.

9.6.2 The Owner shall pay the Contractor at the rate of 92 percent of the invoice cost, not to exceed the scheduled value in a Unit Price or lump sum Contract, for materials delivered to the Site, or other off-site storage location approved by the A/E, provided the Contractor provides the following information with the Contractor Payment Request:

9.6.2.1 a list of the fabricated materials consigned to the Project, giving the place of storage, together with copies of invoices, in order to verify quantity and cost; and

9.6.2.2 a certification of materials stored off-site, prepared by the Contractor and signed by the A/E to evidence that the materials are in conformity with the Specifications and have been tagged with the Project name and number for delivery to the Project. The Contractor shall directly reimburse the A/E for all costs incurred to visit a storage site, other than the areas adjacent to the Project.

The Owner shall pay the balance of the scheduled value when the materials are incorporated into and become a part of the Project.

9.6.3 When payment is allowed for materials delivered to the Site or other approved off-site storage location but not yet incorporated into the Project, the materials are the property of the Owner.

9.6.3.1 The Owner may, at its sole discretion, retain any material not ultimately incorporated into the Project or return it to the Contractor for credit of an amount proportionate to the value of the extra materials.

## 9.7 Retainage

9.7.1 If the total Contract Sum is \$15,000 or more, when the Contract is 50 percent complete, as evidenced by payments in the amount of at least 50 percent of the Contract Sum to the Contractor, all funds retained for the faithful performance of the Work, in accordance with Section 9.5.1, shall be deposited in an escrow account with a bank in the state in accordance with the terms and conditions provided in an escrow agreement executed by the Contractor, the Contracting Authority, and the applicable bank.

9.7.2 When the major portion of the Work is occupied or in use, and there is no other reason to retain funds, including, but not limited to, compliance with Section 6.29; upon request of the Contractor, the funds retained in connection with that Work shall be released from escrow and paid to the Contractor, withholding only that amount necessary to assure faithful completion in the sole discretion of the Contracting Authority.

9.7.2.1 Any reduction or release of retained funds, or portion thereof, shall not be a waiver of the Contracting Authority's right to retain funds in connection with other payments to the Contractor, or any other right or remedy the Contracting Authority has under the Contract Documents at law or in equity.

9.7.2.2 Funds in the escrow account not previously paid shall be authorized for release to the Contractor within 30 days of the Contracting Authority's approval of a final Contractor Payment Request and Payment Release Affidavit furnished by the Contractor, and execution of the Certification of Contract Completion by the Contracting Authority.

9.7.3 Upon consent by the Contractor's Surety, the Contracting Authority may reduce the amount of funds retained for the faithful performance of Work by 50 percent of the amount of funds required to be retained, provided the Contractor's Surety remains responsible for all damages that may be caused due to default by the Contractor, including, but not limited to, the following:

9.7.3.1 completion of the Work;

9.7.3.2 all interference, disruption, hindrance and delay claims;

9.7.3.3 all Liquidated Damages; and

9.7.3.4 all additional expenses incurred by the State.

## 9.8 Payments Withheld

9.8.1 The A/E may recommend to the Contracting Authority that payments be withheld from, or the Liquidated Damages be assessed against, a Contractor Payment Request.

9.8.2 The Contracting Authority may decline to approve any Contractor Payment Request or part thereof, or nullify any previous Contractor Payment Request, in whole or in part, to the extent necessary in the Contracting Authority's sole opinion to protect the Owner from loss because of:

9.8.2.1 Defective Work not remedied;

9.8.2.2 damage caused by the Contractor;

9.8.2.3 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

9.8.2.4 reasonable evidence that the Work will not be completed within the Contract Times, and that the unpaid balance would not be adequate to cover damages under the Contract Documents for the anticipated delay;

9.8.2.5 failure to comply with Applicable Law including, but not limited to, the requirements of ORC Chapter 4115;

9.8.2.6 failure to timely submit EDGE Participation Reports in accordance with Section 1.8.2;

9.8.2.7 failure to timely approve a Construction Progress Schedule in accordance with Section 6.4;

9.8.2.8 failure to timely submit the Contractor's list of proposed Subcontractors in accordance with Section 4.1;

9.8.2.9 failure to carry out the Work in accordance with the Contract Documents; or

9.8.2.10 that which is permitted under other provisions of the Contract Documents.

9.8.3 If the Contractor remedies the basis for withholding payment under Section 9.8.2 to the Contracting Authority's satisfaction, the Owner shall pay the amounts withheld.

## 9.9 Final Contractor Payment Request

9.9.1 The Contractor, as a condition precedent to execution of the Certification of Contract Completion and to final payment, shall complete all requirements of the Contract Documents.

9.9.1.1 The Contractor and each of its Subcontractors, regardless of tier, shall execute a Payment Release Affidavit to certify that the Contractor and each of its Subcontractors, regardless of tier, have complied with all requirements of ORC Chapter 4115, and to certify that all of its Subcontractors have been paid in full for all Work performed or materials furnished for the Project.

9.9.2 The Owner shall pay the final Contractor Payment Request within 30 days from the date the A/E recommends acceptance of the final Contractor Payment Request.

9.9.2.1 Payments due and not paid to the Contractor within the 30 day period shall bear interest from the date payment is due under the Contract Documents at the applicable statutory rate.

9.9.3 The acceptance of final payment by the Contractor or a Subcontractor constitutes the payee's waiver of all claims against the State except those previously made in writing under Article 8 and identified by that payee as unsettled at the time of the final Contractor Payment Request.

9.9.4 Notwithstanding any other provision of the Contract Documents, final payment made pursuant to this Section 9.9 constitutes neither acceptance of any Defective Work, nor a waiver of any rights set forth in the Contract Documents or otherwise provided by Applicable Law.

9.9.5 If the Project is administered using OAKS CI, the Contractor shall submit its final Contractor Payment Request, using the "Contractor Pay Request" business process.

## ARTICLE 10 - BONDS, INSURANCE, AND INDEMNIFICATION

### 10.1 Payment and Performance Bonds

10.1.1 Before signing the Agreement, the Contractor shall provide the Bond as required under Applicable Law and below:

10.1.1.1 If the Contractor provided Document 00 43 13 - "Bid Security Form" as its Bid Guaranty then that form shall be the Bond.

10.1.1.2 If the Contractor provided another form of Bid Guaranty, then Document 00 61 13 - "Performance and Payment Bond Form" shall be the Bond.

10.1.1.3 Each Surety under the Bond shall be licensed to do business in Ohio and satisfactory to the Contracting Authority.

10.1.1.4 If there is more than one Surety under the Bond, each of them shall be jointly and severally liable as surety under the Bond.

10.1.1.5 The penal sum of the Bond, when initially submitted, shall be equal to one-hundred percent of the Contract Sum.

10.1.2 The Contractor shall submit with the executed Bond (1) a certified copy of the authority to act (power of attorney) of the agent signing the Bond on behalf of the Surety and (2) a current and signed Certificate of Compliance under ORC Section 9.311 issued by the Ohio Department of Insurance showing the Surety is licensed to do business in Ohio.

10.1.3 If the Contract Sum increases at any time such that it exceeds the penal sum of the Bond, the Contractor shall cause the penal sum of the Bond to be increased such that the penal sum equals one-hundred percent of the increased Contract Sum.

10.1.4 Any time the Contractor increases the penal sum of the Bond under Section 10.1.3, the Contractor shall deliver to the Contracting Authority written consent of the affected Surety or Sureties confirming the increased penal sum. The Contracting Authority's receipt of that written consent is a condition precedent to the Owner's obligation to pay the Contractor for any portion of the Work associated with the increase.

10.1.5 If notice of any change affecting the Contract is required by any Surety or by the provision of any Bond, the Contractor shall provide that notice.

## 10.2 Contractor's General Insurance Requirements

10.2.1 Throughout the performance of the Work or longer as may be described below, the Contractor shall obtain, pay for, and keep in force, the minimum insurance coverage described in this Article 10.

10.2.1.1 Each requirement of this Article 10 applies to Subcontractors just as it applies to the Contractor.

10.2.1.2 If a Subcontractor's usual insurance coverage does not meet the minimum coverage requirements, before entering into an agreement with that Subcontractor, the Contractor shall submit to the Contracting Authority (1) a certificate of insurance evidencing the insurance the Subcontractor will carry without additional compensation and (2) if the Contracting Authority requests, a written proposal from the Subcontractor to provide coverage which meets the minimum coverage requirements. The Contracting Authority will decide whether to accept the non-conforming insurance coverage or the proposal to provide conforming coverage.

10.2.1.3 On a case-by-case basis, the Contracting Authority and the Contractor may agree to adjust the below requirements for any particular Subcontractor.

10.2.2 Before starting the Work on the Site, upon renewal of any policy, and upon a change of any insurance carrier, the Contractor shall deliver to the Contracting Authority certificates evidencing that the required insurance is in force.

10.2.3 With the exception of government-controlled workers compensation coverage:

10.2.3.1 the Contractor shall place the insurance with companies that (1) are satisfactory to the Contracting Authority, (2) hold an A.M. Best Rating of A-, X, or higher, and (3) are authorized to conduct business in Ohio;

10.2.3.2 if the certificate(s) of insurance is not on the ACORD 25 (2009/09 or more recent) form, it (1) shall provide or be endorsed to provide that coverage will not be cancelled or not renewed until at least 30-days' prior written notice (10-day notice for nonpayment of premium) has been given to the Contracting Authority, and (2) shall have the words "endeavor to" and "but failure to do so shall impose no obligation

or liability of any kind upon insurer, its agents or representatives” and any like provisions crossed out or deleted; and

10.2.3.3 within 30 days of the Contracting Authority’s request, the Contractor shall submit insurance-company certified copies of the policies, the policy endorsements, or both.

10.2.4 The Contractor shall pay all deductibles, or self-insured retentions, or both contained in the Contractor’s policies of insurance required or provided in connection with the Project. The Contracting Authority reserves the right to approve or reject all levels of self-insured retention, captive insurance programs, or other alternative risk financing the Contractor may use to comply with any insurance requirement.

10.2.5 The Contractor shall pay a proportionate share of the deductibles, or self-insured retentions, or both contained in any insurance policy the Contracting Authority purchases for the Project. The Contractor’s proportionate share will derive from the percentage of the associated claim or loss attributable to the alleged or actual negligence of the Contractor or a Subcontractor.

10.2.6 The Contracting Authority and Owner do not represent that required coverage or limits are adequate to protect the Contractor.

10.2.7 Failure of the Contracting Authority to demand a certificate or other evidence of full compliance with the insurance requirements or failure of Contracting Authority to identify a deficiency from evidence that is provided shall not be construed as a waiver of the Contractor’s obligation to maintain the required insurance.

10.2.8 The Contracting Authority may terminate the Contract for cause on account of the Contractor’s failure to maintain the required insurance.

### 10.3 Contractor’s Minimum Coverage Requirements

10.3.1 Workers Compensation. The Contractor shall maintain workers compensation coverage meeting the requirements of Applicable Law.

10.3.2 Employers Liability Coverage. The Contractor shall maintain employers liability coverage with (1) an each-accident limit of not less than \$1,000,000, (2) a disease each-employee limit of not less than \$1,000,000, and (3) a disease policy limit of not less than \$1,000,000.

10.3.3 Commercial General Liability. The Contractor shall maintain commercial general liability (“CGL”) coverage which provides (1) an each-occurrence limit of not less than \$1,000,000, (2) a general-aggregate limit of not less than \$2,000,000, and (3) a products and completed-operations aggregate limit of not less than \$2,000,000.

10.3.3.1 The CGL insurance shall be written on ISO occurrence form CG 00 01 10 01 or a substitute form, providing at least equivalent coverage for liability arising from premises, operations, independent contractors, products/completed-operations, personal and advertising injury, and liability assumed under an insured contract.

10.3.3.2 The Contractor shall include the State, the Contracting Authority, the Owner, and the A/E as additional insureds under the CGL policy using ISO endorsement CG 20 10 11 85 or a substitute form(s) providing equivalent coverage.

10.3.3.3 The CGL policy shall be endorsed using ISO endorsement CG 25 03 or a substitute form providing equivalent coverage to provide that the general aggregate limit applies separately to each of the insured’s projects.

10.3.3.4 The CGL insurance shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs which cover the additional insured(s).

10.3.3.5 The CGL policy shall not exclude coverage to the additional insured(s) for bodily injury or property damage arising out of the products/completed-operations hazard.

10.3.3.6 The Contractor shall maintain the CGL insurance in effect for no less than 5 years after the earlier of the termination the Contract or Final Acceptance of all Work.

10.3.4 Business Automobile Liability. The Contractor shall maintain business automobile (“BA”) coverage written on ISO form CA 00 01 10 01 or a substitute form, providing at least equivalent coverage with a limit of not less than \$1,000,000 each accident.

10.3.4.1 The coverage shall extend to any auto.

10.3.4.2 The Contractor shall include the State, the Contracting Authority, the Owner, and the A/E as additional insureds under the BA policy.

10.3.5 Umbrella/Excess Liability.

10.3.5.1 The Contractor may employ an umbrella/excess liability policy to achieve the above-required minimum coverage.

10.3.5.2 The Contractor shall maintain umbrella/excess liability coverage with a limit of not less than \$2,000,000 (in addition to the above-required limits) if the Work (or the Work to performed by the Subcontractor) includes any of the following:

- .1 brick/block masonry;
- .2 exterior caulking/sealant;
- .3 cast-in-place or precast concrete;
- .4 curtain wall;
- .5 dampproofing/waterproofing;
- .6 electrical;
- .7 elevator;
- .8 exterior glass and/or glazing;
- .9 exterior marble, granite, and/or other stonework;
- .10 miscellaneous metals;
- .11 plaster/stucco;
- .12 plumbing;
- .13 HVAC;
- .14 roofing and/or sheet metal;
- .15 scaffolding;
- .16 spray-on fireproofing;
- .17 sprinkler and/or fire protection; or
- .18 structural steel and/or metal deck.

10.3.5.3 The Contractor shall maintain umbrella/excess liability coverage with a limit of not less than \$5,000,000 (in addition to the above-required limits) if the Work (or the Work to performed by the Subcontractor) includes any of the following:

- .1 caissons and/or piles;
- .2 demolition;
- .3 excavation and/or utility work;
- .4 sheeting, shoring, and/or underpinning;
- .5 window washing equipment; or
- .6 wrecking.

10.3.6 Contractor’s Pollution Liability. If the Work includes environmentally sensitive, hazardous types of activities (such as demolition, exterior insulation finish systems, Asbestos abatement, storage-tank removal, or similar activities), or involves Hazardous Materials, the Contractor shall maintain a contractor’s pollution

liability (“CPL”) policy with (1) a per-claim limit of not less than \$1,000,000 and (2) an annual-aggregate limit of not less than \$1,000,000, covering the acts, errors and/or omissions of the Contractor for damages (including from mold) sustained by the Contracting Authority by reason of the Contractor’s performance of the Work.

10.3.6.1 The CPL policy shall have an effective date, which is on or before the date on which the Contractor first started to perform any Project-related services.

10.3.6.2 Upon submission of the associated certificate of insurance and at each policy renewal, the Contractor shall advise the Contracting Authority in writing of any actual or alleged claims which may erode the CPL policy’s limits.

10.3.6.3 The Contractor shall maintain the CPL insurance in effect for no less than 5 years after the earlier of the termination the Contract or Final Acceptance of all Work.

10.3.7 Professional Liability—Contractor. The Contractor shall maintain professional liability insurance with a per-claim limit of not less than \$1,000,000 and an annual aggregate limit of not less than \$2,000,000.

10.3.7.1 The professional liability policy shall have an effective date which is on or before the date on which the Contractor first started to provide any Project-related services.

10.3.7.2 Upon submission of the associated certificate of insurance and at each policy renewal, the Contractor shall advise the Contracting Authority in writing of any actual or alleged claims which may erode the professional liability policy’s limits.

10.3.7.3 The Contractor shall maintain the professional liability insurance in effect for no less than 5 years after the earlier of the termination the Contract or Final Acceptance of all Work.

10.3.8 Professional Liability—Subcontractors. If the Work to be performed by a Subcontractor includes any professional design services (including without limitation sprinkler and/or fire protection and other design-build work) the Subcontractor shall maintain professional liability insurance without design-build exclusions with limits not less than as identified in the following table:

Subcontract Sum	Each Claim	Annual Aggregate
Up to \$10,000,000	\$1,000,000	\$2,000,000
From \$10,000,000.01 to \$25,000,000	\$3,000,000	\$3,000,000
From \$25,000,000.01 to \$50,000,000	\$5,000,000	\$5,000,000
More than \$50,000,000	\$10,000,000	\$10,000,000

10.3.8.1 The professional liability policy shall have an effective date which is on or before the date on which the Subcontractor first started to provide any Project-related services.

10.3.8.2 Upon submission of the associated certificate of insurance and at each policy renewal, the Contractor shall advise the Contracting Authority in writing of any actual or alleged claims which may erode the Subcontractor’s professional liability policy’s limits.

10.3.8.3 The Subcontractor shall maintain the professional liability insurance in effect for no less than 5 years after the earlier of the termination the Contract or Final Acceptance of all Work.

10.3.8.4 If the Subcontractor is not authorized under Applicable Law to directly provide professional design services, the Subcontractor may satisfy the requirements of this Section 10.3.8 by providing a contractor’s professional liability insurance policy.

10.3.9 Aviation Liability. If the Contractor or a Subcontractor uses aircraft, including helicopters, in the performance of the Work, the Contractor shall maintain aircraft or aviation liability coverage in an amount of no less than \$10,000,000. The Contracting Authority and Owner will not be liable for any damage to any aircraft owned, leased, rented, or borrowed by the Contractor or a Subcontractor.

10.3.10 Watercraft Liability. If the Contractor or a Subcontractor uses watercraft in the performance of the Work, the Contractor shall maintain watercraft liability coverage including protection and indemnity

insurance in an amount of no less than \$5,000,000. The Contracting Authority and Owner will not be liable for any damage to any watercraft owned, leased, rented, or borrowed by the Contractor or a Subcontractor.

**10.3.11 Equipment Coverage.** The Contracting Authority and Owner will not insure or be liable for damage to any Contractor or Subcontractor owned, leased, rented, or borrowed tools, equipment, or vehicles. The Contractor and Subcontractors are solely responsible for maintaining all insurance necessary to cover their tools, equipment, and vehicles.

**10.3.12 Ocean Marine Insurance.** If the shipment of equipment or materials for the Work will not be covered by the Builder's Risk insurance required under Section 10.4, the Contractor shall maintain ocean marine insurance to the Site including cost, insurance, and freight with limits of not less than an amount equal to the full replacement cost of the equipment/materials shipped to final destination point. The insurance shall include the following minimum requirements:

10.3.12.1 all-risk basis including war risk and all forms of terrorism;

10.3.12.2 coverage for general average and salvage charges;

10.3.12.3 "on deck" coverage;

10.3.12.4 warehouse-to-warehouse coverage;

10.3.12.5 coverage to include losses from strikes, riots, and civil commotions ("SR&CC coverage");

10.3.12.6 coverage to include losses from free of capture and seizure warranty ("FC&S Warranty coverage");

10.3.12.7 "Inchmaree" clause;

10.3.12.8 sue and labor;

10.3.12.9 "both-to-blame" coverage;

10.3.12.10 free of particular average;

10.3.12.11 inland coverage including on-land shipment, port storage, and barge transit upon inland waterways; and

10.3.12.12 damage by saltwater and rainwater perils and cargo sweat.

**10.3.13 Additional Property Insurance.** For any demolition, blasting, excavating, tunneling, shoring, or similar operations, the Contractor shall provide and maintain Property Damage Liability insurance with a limit of liability equal to the limit as specified in the applicable sections of Article 10.

## 10.4 Builder's Risk Insurance

**10.4.1** The Contractor shall provide and maintain, during the progress of the Work and until the execution of the final Certification of Contract Completion by the Contracting Authority, a Builder's Risk insurance policy to cover all Work in the course of construction including false-work, temporary buildings and structures, and materials used in the construction process, stored on or off-site, or while in transit. This insurance shall be on a special cause of loss form, which provides coverage on an open perils basis insuring against the direct physical loss of, or damage to, covered property including, but not limited to, theft, vandalism, malicious mischief, earthquake, tornado, lightning, explosion, breakage of glass, flood, collapse, water damage, and hot and cold testing. This insurance shall be written on a replacement cost basis and shall also include debris removal, and/or demolition occasioned by enforcement of Applicable Law.

**10.4.1.1** The amount of coverage shall be not less than the total completed value of the Project, including the value of permanent fixtures and decorations, with a deductible of not more than \$25,000 per occurrence. Any deductible over the amount specified shall be authorized in writing by the Owner and the Contracting Authority.

**10.4.1.2** Coverage shall include a provision to pay the reasonable extra costs of acceleration and expediting temporary and permanent repairs to, or permanent replacement of, damaged property. This shall include

overtime wages and the extra cost of "express" or other means for rapidly transporting materials and supplies necessary to the repair or replacement.

10.4.1.3 Coverage shall include "soft cost endorsement" including, but not limited to, the reasonable extra costs of the A/E and reasonable Contractor extension or acceleration costs.

10.4.1.4 Coverage shall include material in transit or stored off-site and identified for the Project.

10.4.1.5 Coverage shall waive all rights between the Owner, the Contracting Authority, the Contractor, and Subcontractors at any tier, for damages caused by fire or any other perils to the extent of actual recovery of any insurance proceeds under the policy.

10.4.1.6 Coverage shall include appropriate sub-limits for installation coverage.

10.4.1.7 Coverage shall include provisions for mechanical or electrical breakdown, or boiler system testing.

10.4.1.8 Coverage shall include temporary structures and scaffolding, along with collapse coverage.

10.4.1.9 Coverage shall be primary to all other applicable insurance.

10.4.1.10 The Builder's Risk policy shall specifically permit and allow for Partial Occupancy by the Owner prior to execution of the final Certification of Contract Completion by the Contracting Authority and coverage shall remain in effect until all punch list items are completed.

10.4.1.11 The Contractor's tools and equipment shall not be covered under the Builder's Risk policy. It is the Contractor's sole responsibility to maintain such coverage, which shall be included in its Overhead and not included as a separate item in the Contractor's Schedule of Values.

10.4.2 If the Contractor is involved solely in the installation of material and equipment and not in new building construction, the Contractor shall purchase and maintain a Builder's Risk, Builder's Risk-Renovations, or Installation Floater insurance policy. The policy shall comply with the provisions of Section 10.4.1.

## 10.5 Waivers of Subrogation

10.5.1 To the fullest extent permitted by Applicable Law, the Contractor waives all rights against the Owner, the Contracting Authority, and their agents and employees for damages to the extent covered by any insurance, except rights to the proceeds of that insurance. All policies shall accomplish the waiver of subrogation by endorsement or otherwise.

10.5.2 The Owner, the Contracting Authority, and the Contractor waive all rights against each other for damages caused by fire or other perils to the extent of actual recovery of any insurance proceeds under any property insurance, inland marine insurance, or Builder's Risk insurance applicable to the Work.

## 10.6 Indemnification for Injury or Damage

10.6.1 To the fullest extent permitted by Applicable Law, the Contractor shall indemnify, defend, and hold harmless the Indemnified Parties from and against all claims, costs, damages, losses, fines, penalties, and expenses (including but not limited to all fees and charges of contractors, engineers, architects, attorneys, and other professionals and all court, arbitration, or other dispute-resolution costs) arising out of or in connection with the Project, provided that any such claim, cost, damage, loss, fine, penalty, or expense (all of which may be direct, indirect, or consequential) is attributable to:

10.6.1.1 bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property but only to the extent caused by the negligent acts, errors, or omissions of the Contractor or a person or entity for whom the Contractor may be liable;

10.6.1.2 infringement of patent rights or copyrights by the Contractor or a person or entity for whom the Contractor may be liable; or

10.6.1.3 a violation of Applicable Law but only to the extent attributable to the Contractor or a person or entity for whom the Contractor may be liable.

10.6.2 The Contractor's indemnification obligation under Section 10.5.1 exists regardless of whether or not and the extent to which the claim, damage, loss, fine, penalty, or expense is caused in part by a party indemnified under Section 10.5.1. But nothing in Section 10.5.1 obligates the Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

10.6.3 The Contractor's obligations under Section 10.5.1 shall not extend to the liability of the A/E, the A/E's consultants, agents, representatives, or employees for negligent preparation or approval of Drawings, Specifications, Change Orders, opinions, and any other responsibility of the A/E, except to the extent covered by the Contractor's insurance.

10.6.4 In claims against an Indemnified Party by any direct or indirect employee (or the survivor or personal representative of that employee) of the Contractor or a person or entity for whom the Contractor may be liable, the indemnification obligation under Section 10.5.1 will not be limited by a limitation on the amount or type of damages, compensation, or benefits payable under workers' compensation acts, disability benefit acts, or other employee benefit acts.

10.6.5 The Contractor's indemnification obligation under Section 10.5.1 will not be limited by any insurance policy provided or required in connection with the Project.

10.6.6 The Contractor's obligations under Section 10.5.1 shall not negate, abridge, or reduce other rights or obligations of indemnity, which would otherwise exist as to an Indemnified Party.

10.6.7 The Contractor's indemnification obligation under Section 10.5.1 will survive termination of the Contract and Final Acceptance of the Work.

10.6.8 The Contracting Authority may deduct from the Contract Sum the claims, damages, losses, fines, penalties, and expenses for which the Contractor is liable under Section 10.5.1. If those claims, damages, losses, fines, penalties, and expenses exceed the unpaid balance of the Contract Sum, the Contractor shall immediately pay the difference to the Owner.

## 10.7 Indemnification for Use of Electronic Files

10.7.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Indemnified Parties from and against all claims, damages, losses, and expenses (including, but not limited to, the fees and charges of contractors, engineers, architects, attorneys, and other professionals) arising out of, or related to the Contractor's, or any other Person's use of electronic files, including, but not limited to, CAD or BIM files (collectively "Electronic Files").

10.7.1.1 These Electronic Files are provided solely for the Contractor's convenience and use related to the Project. Any use of the Electronic Files shall be at the sole risk of the Contractor.

10.7.1.2 The Owner alone owns the Electronic Files and every right, title, and interest therein from the moment of creation.

10.7.1.3 The Electronic Files are not products.

10.7.1.4 The Contractor shall not use the Electronic Files for any purpose other than as a convenience for preparing Shop Drawings, Coordination Drawings, Record Drawings, or fabrication data for components, systems, and assemblies intended solely for use on the Project.

10.7.1.5 The State and the A/E make no warranties, either express or implied, of the merchantability or fitness of the Electronic Files for any particular purpose.

10.7.1.6 The Contractor understands and accepts that the Electronic Files may deteriorate or be inadvertently or otherwise modified without authorization of the State or the A/E.

10.7.1.7 The State and the A/E make no representations as to compatibility, usability, or readability of the Electronic Files resulting from the use of software, application packages, operating systems, or computer hardware differing from those used to create the Electronic Files.

10.7.1.8 In the event of a conflict between the Contract Documents and the Electronic Files, the Contract Documents shall control, take precedence over, and govern the Electronic Files.

10.7.1.9 The Contractor alone is responsible to check, verify, and otherwise confirm the accuracy of data on the Electronic Files.

10.7.1.10 The Contractor shall not make any claims and hereby waives, to the fullest extent permitted by law, any claims or causes of action of any nature against the Indemnified Parties, which may arise out of, or in connection with, the use of the Electronic Files.

## ARTICLE 11 - SUSPENSION AND TERMINATION

### 11.1 Suspension of the Work

11.1.1 The Contracting Authority, without cause and without prejudice to any other right or remedy it may have, may order the Contractor in writing to suspend, delay, or interrupt the performance of the Work in whole or in part for such period as the Contracting Authority may determine.

11.1.1.1 If the Contracting Authority suspends the Work under this Section 11.1.1 and the Contractor complies with Article 8, the Contract Sum and Contract Times shall be adjusted for increases in the cost and time caused by the suspension, delay, or interruption. The adjustment of the Contract Sum, however, shall not include profit.

11.1.1.2 Notwithstanding the foregoing, no adjustment shall be made to the Contract Sum or Contract Times to the extent that:

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

11.1.1.3 If the Contracting Authority suspends the Work under this Section 11.1.1 and the Contractor submits a proper Contractor Payment Request, but subject to all other provisions of the Contract Documents, the Contractor shall be entitled to payment of compensation due under the Contract Documents for Work performed before the suspension based upon the Schedule of Values.

11.1.2 The Contracting Authority, without prejudice to any other right or remedy it may have, may order the Contractor in writing to suspend, delay, or interrupt the performance of the Work in whole or in part for such period of time as the Contracting Authority may determine for any of the following reasons: (1) Defective Work; (2) the Contractor is causing undue risk of damage to any part of the Project or adjacent area; (3) the Contractor fails to furnish or perform the Work in such a way that the complete Work will conform to the requirements of the Contract Documents; or (4) any other cause the Contracting Authority reasonably believes justifies a suspension.

11.1.2.1 The Contracting Authority's exercise of its right to suspend the Work under this Section 11.1.2 shall not entitle the Contractor to any adjustment of the Contract Sum, Contract Times, or both.

11.1.2.2 If the Contracting Authority is adjudged to have improperly suspended the Work under this Section 11.1.2, the suspension shall be deemed to have been a suspension under Section 11.1.1.

11.1.3 Upon receipt of notice of suspension under this Section 11.1, the Contractor shall cease Work on the suspended activities and take all necessary or appropriate steps to limit disbursements and minimize respective costs. The Contractor shall furnish a report to the Contracting Authority, within 5 days of receiving the notice of suspension, describing the status of the Work, including, but not limited to, results accomplished, resulting conclusions, and other information as the Contracting Authority may require.

11.1.4 The Contracting Authority's right to stop the Work shall not give rise to any duty to exercise the right for the benefit of the Contractor or any other party, and the Contracting Authority's exercise or failure to exercise the right shall not prejudice any of the Contracting Authority's other rights.

## 11.2 Termination for Convenience

11.2.1 The Contracting Authority may, at any time, terminate the Contract in whole or in part for the Owner's convenience and without cause, at any time upon 10 days written notice to the Contractor.

11.2.2 Upon receipt of the notice of termination for convenience, the Contractor shall immediately proceed with performance of the following duties in accordance with instructions from the Contracting Authority:

11.2.2.1 cease operation as specified in the notice;

11.2.2.2 place no further orders and enter into no further subcontracts for materials, labor, services, or facilities, except as necessary to complete continued portions of the Project;

11.2.2.3 terminate all subcontracts and orders to the extent they relate to the Work terminated;

11.2.2.4 proceed with Work not terminated; and

11.2.2.5 take actions that may be necessary, or that the Contracting Authority may direct, for the protection and preservation of the terminated Work.

11.2.3 Upon termination, the Contracting Authority shall pay the Contractor in accordance with the Schedule of Values for Work completed, including any retained funds, and the value of materials ordered and delivered, less any salvage credit the Contractor may receive for them.

11.2.3.1 All materials, equipment, facilities, and supplies at the Site or stored off-site, for which the Contractor has received payment, shall become the property of the Owner.

11.2.3.2 The Contractor is entitled to a fair and reasonable profit for Work performed and reasonable expenses directly attributable to the termination of the Contract. In no event shall the Contractor be entitled to (1) overhead and profit on Work not performed or (2) compensation in excess of the total Contract Sum.

11.2.4 If the Contracting Authority terminates the Work under this Section 11.2, the termination shall not affect the rights or remedies of the State against the Contractor then existing or which may thereafter accrue.

11.2.5 Notwithstanding Section 11.2.3, if the Contracting Authority terminates the Work under this Section 11.2, but there exists an event of the Contractor's default, the Contractor shall be entitled to receive only such sums as it would be entitled to receive following the occurrence of an event of default as provided in Section 11.3.

## 11.3 Termination for Cause

11.3.1 The Contracting Authority may terminate all or a portion of the Contract if the Contractor commits a material breach of the Contract including but not limited to:

11.3.1.1 failure to prosecute the Work with the necessary force or in a timely manner;

11.3.1.2 refusal to remedy Defective Work;

11.3.1.3 failure to supply enough properly skilled workers or proper materials;

11.3.1.4 failure to properly make payment to Subcontractors or Consultants;

11.3.1.5 performance of any services outside of the United States;

11.3.1.6 permitting its Subcontractors or Consultants to perform any services outside of the United States;  
or

11.3.1.7 disregarding laws, ordinances, or rules, regulations, or orders of a public authority with jurisdiction over the Project.

11.3.2 If the Contracting Authority intends to exercise its termination rights under this Section 11.3, the Contracting Authority shall issue not less than 5 days' written notice to the Contractor and the Contractor's Surety in accordance with ORC Section 153.17 ("5-Day Notice").

11.3.3 If the Contractor fails to satisfy the requirements set forth in the 5-Day Notice within 15 days of receipt of the 5-Day Notice, the Contracting Authority may declare the Contractor in default, terminate the Contract, and employ upon the Work the additional force or supply materials or either as appropriate, and remove Defective Work.

11.3.4 If the Contract is terminated, the Contractor's Surety may perform the Contract. If the Contractor's Surety does not commence performance of the Contract within 10 days of the date of Contract termination, the Contracting Authority may complete the Work by means the Contracting Authority determines appropriate. The Contracting Authority may take possession of and use all materials, facilities, and equipment at the Site or stored off-site, for which the State has paid.

11.3.5 If the Contract is terminated, the Contractor shall not be entitled to further payment. If the unpaid balance of the Contract Sum exceeds the costs of finishing the Work, including without limitation the fees and charges of engineers, architects, attorneys, and other professionals and court costs, and other damages incurred by the Owner and not expressly waived, the Contractor or Surety shall immediately pay the amount of the insufficiency to the Owner. This obligation for payment shall survive termination of the Contract.

11.3.6 If the Contractor's Surety performs the Work, the provisions of the Contract Documents govern the Surety's performance, with the Surety in place of the Contractor in all provisions including, but not limited to, provisions for payment for the Work, and provisions of the right of the Contracting Authority to complete the Work.

11.3.7 If the Contracting Authority terminates the Contract under this Section 11.3, the termination shall not affect any rights or remedies of the State against the Contractor then existing or which may thereafter accrue. The Contracting Authority's retention or payment of funds due the Contractor shall not release the Contractor or the Contractor's Surety from liability for performance of the Work in accordance with the requirements of the Contract Documents.

11.3.8 If the Contracting Authority is adjudged to have improperly terminated the Contract under this Section 11.3, the termination will be deemed to have been a termination under Section 11.2.

## 11.4 Contractor Insolvency

### 11.4.1 Bankruptcy of Contractor.

11.4.1.1 If the Contractor files a voluntary petition in bankruptcy or has an involuntary petition in bankruptcy filed against it, the Contractor, the Contractor as the debtor-in-possession, or the trustee of the Contractor's bankruptcy estate shall file a motion to assume or reject the Contract under Bankruptcy Code §365, 11 U.S.C. §365, within 20 days after the filing of the voluntary petition or involuntary petition and shall diligently prosecute that motion to conclusion so as to obtain an order granting or denying that motion within 45 days after the filing of the voluntary or involuntary petition. The failure to file and prosecute that motion within the time frames provided by this Section 11.4 shall constitute a material breach of the Contract as time is of the essence with respect to Contractor's performance of all terms of this Contract. Contractor agrees to the granting of relief from the automatic stay of the Bankruptcy Code, 11 U.S.C. §362(a), to permit the Contracting Authority to terminate the Contract for cause in such instance and issue and serve all notices necessary to terminate the Contract or arising out of the termination of the Contract and to take any and all other action necessary to terminate the Contract.

### 11.4.2 Receivership or Assignment for the Benefit of Creditors.

11.4.2.1 If the Contractor makes a general assignment for the benefit of creditors or if a receiver is appointed for all or a substantial part of the Contractor's business or property, the Contracting Authority shall serve written notice on the Contractor and the Contractor's Surety stating that any failure of the Contractor to provide adequate assurance of continued performance shall be considered a rejection of the Contract, which shall result in termination of the Contract for cause. Such termination of the Contract need not be evidenced by an order of any court.

## ARTICLE 12 - GENERAL PROVISIONS

### 12.1 Contractor's Documents and Contract Documents

#### 12.1.1 Ownership.

12.1.1.1 The Owner alone owns the Contractor's Documents and the Contract Documents and every right, title, and interest therein from the moment of creation.

- .1 The Contractor must execute and deliver and cause its employees and agents and all Subcontractors and Consultants to execute and deliver, to the Owner any transfers, assignments, documents, or other instruments (if any) necessary to vest in the Owner complete right, title, interest in and ownership of the Contractor's Documents and the Contract Documents.

12.1.1.2 The Contractor may retain copies, including reproducible copies, of the Contractor's Documents and the Contract Documents for information, reference, and performance of the Work.

12.1.1.3 The submission or distribution of the Contractor's Documents or the Contract Documents to meet official regulatory requirements or for similar purposes in connection with the Project is not a waiver of the Owner's reserved rights in the Contractor's Documents and the Contract Documents. Any unauthorized use of the Contractor's Documents or the Contract Documents shall be at the sole risk of the entity making the unauthorized use.

#### 12.1.2 Intent.

12.1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor.

12.1.2.2 The Contract Documents are complementary, and what is required by one is binding as if required by all.

12.1.2.3 The Contractor shall provide all labor and materials necessary for the entire completion of the Work described in the Contract Documents and reasonably inferable to produce the intended results.

12.1.2.4 The Drawings govern dimensions, details, and locations of the Work. The Specifications govern quality of materials and workmanship.

12.1.2.5 The organization of the Specifications in divisions, sections, and articles, and the arrangement of Drawings shall not restrict the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

12.1.2.6 In the event of inconsistency or conflict within the Contract Documents, the Contractor shall provide the better quality or greater quantity of Work, and comply with the stricter requirement.

12.1.2.7 Unless otherwise defined in the Contract Documents, words that have well-known technical or construction industry meanings are used in accordance with those recognized meanings.

12.1.2.8 The Sections of Division 01 - "General Requirements" govern the performance of the Work of all Sections of the Specifications.

### 12.2 Public Relations

12.2.1 Publicity prior to completion of the Project. Prior to completion of the Project, public relations or publicity about the Project shall be solely within the control, and with the consent of, the Owner.

12.2.2 Publicity after completion of the Project. After completion of the Project, the Contractor may exercise reasonable public relations and marketing efforts related to the Project, provided the Contractor properly identifies the Owner and the Contracting Authority, and their participation in the Project.

12.2.3 Professional Photography. If the Contractor commissions photography of the completed Project, the Contractor shall include in its photography agreements a release for unrestricted and unlimited use of photographs by the Owner and the Contracting Authority, and shall provide the Owner and the Contracting

Authority with a reasonable quantity of photographs for use in the Owner's and the Contracting Authority's marketing and awareness activities, including, but not limited to, profiles of the Project on their respective websites.

#### 12.2.4 Craft Awards and Other Recognition.

12.2.4.1 If the Contractor submits the Project for craft awards or other similar venues for recognition of the Project, the Contractor shall properly identify the Owner and the Contracting Authority, and their participation in the Project.

12.2.4.2 In addition, if the Project receives any craft award or other recognition, the Contractor shall provide duplicate copies of the award plaque or other memento of the award to the Owner and the Contracting Authority.

### 12.3 Application and Governing Law

12.3.1 The Contract and the rights of the parties thereunder shall be governed by the laws of the state of Ohio and only Ohio courts shall have jurisdiction over any action or proceeding concerning the Contract and/or performance thereunder. The Contractor irrevocably consents to such jurisdiction.

12.3.2 The parties to the Contract shall comply with Applicable Law.

12.3.3 Other rights and responsibilities of the Contractor, the A/E, the Contracting Authority, and the Owner are set forth throughout the Contract Documents and included under different titles, articles, and paragraphs for convenience.

### 12.4 Conditions of the Contract

12.4.1 These General Conditions govern, take precedence over, and shall not be superseded or amended by Drawings and Specifications, unless so provided in Supplementary Conditions prepared by the Contracting Authority and approved by the Ohio Facilities Construction Commission.

### 12.5 Notice of Commencement.

12.5.1 The Contracting Authority shall prepare a Notice of Commencement and make it available as required under ORC Section 1311.252.

12.5.2 Upon request, the Contracting Authority or the Contractor shall furnish the Notice of Commencement to Subcontractors or any other member of the public.

### 12.6 Written Notice

12.6.1 Notice under the Contract Documents shall be validly given if:

12.6.1.1 delivered personally to a member of the organization for whom the notice is intended;

12.6.1.2 delivered, or sent by registered or certified mail, to the last known business address of the organization; or

12.6.1.3 sent by facsimile, email, or web-based project management software, provided the original, signed document is delivered within 3 business days after the date of the electronic transmission.

12.6.2 When the Owner, the Contracting Authority, the A/E, or the Contractor gives notice to one of the other 3, it shall also simultaneously send a copy of that notice to the others.

12.6.3 A copy of all notices, certificates, requests, or other communications to the Contracting Authority shall be sent to the Project Manager.

12.6.4 In the event of an emergency involving the Project, including, but not limited to, a fatality, serious injury, fire, collapse, flood, utility, or power loss to occupied facilities, explosion, or environmental damage, the Contractor shall immediately notify the A/E, the Contracting Authority, and the Owner by telephone.

12.6.5 The Contracting Authority, the Owner, the A/E, or the Contractor may, by written notice given hereunder, designate addresses, telephone numbers, email addresses, or facsimile numbers to which notices, certificates, requests, or communications shall be sent.

## 12.7 Taxes

12.7.1 Only those materials that ultimately become a part of the completed structure or improvement which constitutes the Project shall be exempt from state sales tax and state use tax.

12.7.2 The purchase, lease, or rental of material, equipment, parts, or expendable items as concrete form lumber, tools, oils, greases, and fuels, which are used in connection with the Work, are subject to the application of state sales tax and state use tax.

## 12.8 Computing Time

12.8.1 When the Contract Documents refer to a period of time by a number of days, the period shall be computed to exclude the first and include the last day of the period. If the last day of the period falls on a Saturday, Sunday, or a legal holiday, that day shall be omitted from the computation and the period shall end on the next succeeding day that is not a Saturday, Sunday, or legal holiday.

12.8.2 Except as excluded under Section 12.8.1, the Contract Times and all other time periods referred to in the Contract Documents includes Saturdays, Sundays, and all days defined as legal holidays by Section 12.8.4.

12.8.3 The standard workdays for State projects are Monday through Friday, excluding legal holidays.

12.8.4 Legal holidays are as follows:

12.8.4.1 New Year's Day – First Day in January;

12.8.4.2 Martin Luther King Jr. Day – Third Monday in January;

12.8.4.3 Washington-Lincoln (President's) Day – Third Monday in February;

12.8.4.4 Memorial Day – Last Monday in May;

12.8.4.5 Independence Day – Fourth day of July;

12.8.4.6 Labor Day – First Monday in September;

12.8.4.7 Columbus Day – Second Monday in October;

12.8.4.8 Veteran's Day – Eleventh Day of November;

12.8.4.9 Thanksgiving Day – Fourth Thursday of November; and

12.8.4.10 Christmas Day – Twenty-fifth day of December.

12.8.5 If a legal holiday falls on a Saturday, it is observed on the preceding Friday. If a legal holiday falls on a Sunday, it is observed on the following Monday.

## 12.9 Time of the Essence

12.9.1 Time limits stated in the Contract Documents are of the essence of the Contract and all obligations under the Contract. By signing the Agreement, the Contractor acknowledges that the Contract Times are reasonable, taking into consideration the usual weather and other conditions prevailing in the locality of the Project. By signing the Construction Schedule, the Contractor acknowledges that the specified Milestone dates are reasonable, taking into consideration the usual weather and other conditions prevailing in the locality of the Project.

12.9.1.1 The Notice to Proceed establishes the date for commencement of the Work.

12.9.1.2 The Contractor acknowledges that the Owner has entered into, or may enter into, agreements for use of all or part of the premises where the Work is to be completed based upon the Contractor achieving Contract Completion within the Contract Times.

12.9.1.3 The Contractor shall perform the Work in a reasonable, efficient, and economical sequence, and in the order and time as provided in the Construction Progress Schedule.

12.9.1.4 The Contractor acknowledges that it may be subject to interference, disruption, hindrance, or delay in the progress of the Work from any cause. The sole remedy for such interference, disruption, hindrance, or delay shall be an extension of the Contract Times under Article 8, unless otherwise required by ORC Section 4113.62.

## 12.10 Successors and Assigns

12.10.1 The Contracting Authority and the Contractor each bind themselves, their successors, assigns, and legal representatives, to the other party to this Contract and to the successors, assigns, and legal representatives of the other party with respect to all terms of this Contract.

12.10.2 The Contracting Authority and the Contractor each acknowledge that the Owner is an intended third-party beneficiary of this Contract.

12.10.3 The Contractor shall not assign, or transfer any right, title, or interest in this Contract without the Contracting Authority's prior written consent.

## 12.11 Extent of Contract

12.11.1 Entire Contract. The Contract Documents represent the entire and integrated agreement between the Contracting Authority and the Contractor and supersede all prior negotiations, representations, or agreements, either written or oral.

12.11.2 Multiple Counterparts. This Contract may be executed in any number of counterparts, each of which shall be regarded as an original and all of which shall constitute but one and the same instrument.

12.11.3 Captions. The captions and headings in this Contract are for convenience only and in no way define, limit, or describe the scope or intent of any provisions or sections hereof.

12.11.4 Precedence. If there are any inconsistencies between the provisions of the Contract Documents and the provisions of the Contract, the provisions of this Contract shall prevail.

## 12.12 Severability

12.12.1 If any term or provision of this Contract or the application thereof to any Person or circumstance, is finally determined to be invalid or unenforceable by a court of competent jurisdiction, the remainder of this Contract or the application of such term or provision to other Persons or circumstances, shall not be affected thereby, and each term and provision of this Contract shall be valid and enforced to the fullest extent permitted by Applicable Law.

## 12.13 Facsimile Signatures

12.13.1 Any party hereto may deliver a copy of its counterpart signature page to this Contract via fax, e-mail, or web-based project management software. Each party hereto shall be entitled to rely upon a facsimile signature of any other party delivered in such a manner as if such signature were an original.

## 12.14 No Third-Party Interest

12.14.1 Except as expressly provided under Sections 6.2.3 through 6.2.5 and Section 12.10.2, (1) no person or entity, other than the Contracting Authority and Contractor, will have any right or interest under the Contract, and (2) the Contract does not create a contractual relationship of any kind between any people or entities other than the Contracting Authority and the Contractor.

**12.15 No Waiver**

12.15.1 The failure of the Contracting Authority or the Contractor to insist in any one or more instances upon the strict performance of any one or more of the provisions of the Contract or to exercise any rights under the Contract or provided by law will not be construed as a waiver or relinquishment of that provision or right or of the right to subsequently demand strict performance or exercise the right and the rights will continue unchanged and remain in full force and effect.

**12.16 Rights and Remedies**

12.16.1 The duties, obligations, rights, and remedies under the Contract are in addition to and not a limitation of the duties, obligations, rights, and remedies otherwise imposed by or available under Applicable Law.

**12.17 Survival of Obligations**

12.17.1 All representations, indemnity obligations, warranties, guarantees, and necessarily continuing obligations under the Contract, will survive final payment, completion and acceptance of the Work, and termination or completion of the Contract.

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END OF DOCUMENT

# Document 00 73 43 - Wage Rate Requirements

## State of Ohio Standard Requirements for Public Facility Construction

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### PREVAILING WAGE RATES

#### 1.1 Payment of Prevailing Wage Rates

1.1.1 The Contractor shall pay the prevailing wage rates of the Project locality, as issued by the Ohio Department of Commerce, Wage and Hour Bureau to laborers and mechanics performing Work on the Project.

1.1.2 The Contractor shall comply with the provisions, duties, obligations, and is subject to the remedies and penalties of Ohio Revised Code (“ORC”) Chapter 4115.

1.1.3 If the Contractor or its Subcontractors fail to comply with ORC Chapter 4115, the Contracting Authority may withhold payment pursuant to Section 9.6.2.5 of the General Conditions. The Contractor is liable for violations committed by the Contractor or its Subcontractors to the extent provided in ORC Chapter 4115.

1.1.4 The Contractor shall submit all payroll reports in compliance with the requirements of Section 1.4 for all of the employees of the Contractor and of the Contractor’s Subcontractors.

1.1.5 By executing a Contract, the Contractor certifies that it based its Bid upon the prevailing rates of wages as ascertained by the Ohio Department of Commerce, Wage and Hour Bureau for the Project as provided in ORC Sections 4115.03 through 4115.14, which are inserted at the end of this Document.

#### 1.2 Prevailing Wage Rate Revisions

1.2.1 The Contracting Authority shall, within 7 business days after receipt of a notice of a change in the prevailing wage rates, notify the Contractor of the change. The prevailing wage rates are available at the Ohio Department of Commerce’s web site: <http://com.state.oh.us/>.

1.2.2 The Contractor shall pay any revised wage rates issued during the term of the Contract.

#### 1.3 Payroll Schedule

1.3.1 Within 10 days of the date of the Notice to Proceed, the Contractor shall provide the Contracting Authority’s Prevailing Wage Coordinator a schedule of dates during the term of the Contract on which wages shall be paid to employees for the Project.

#### 1.4 Payroll Reports

1.4.1 The Contractor shall submit payroll reports with each Contractor Payment Request, which reports shall be certified by the Contractor that the payroll is correct and complete and the wage rates shown are not less than those required by the Contract. The Contractor is responsible for submitting all payroll reports of its Subcontractors.

1.4.1.1 Each payroll report shall indicate the period covered and include a list containing the name, address and social security number of each employee of the Contractor and its Subcontractors paid for the Work.

1.4.1.2 Each payroll report shall list the number of hours each employee worked each day on the Project during the reporting period, the total hours each week on the Project, the employee's hourly rate of pay, job classification, hourly rate of fringe benefits, and all deductions from wages and net pay.

1.4.1.3 Each payroll report shall list each fringe benefit and state if it is paid as cash to the employee or to a named plan.

1.4.1.4 The Contractor and its Subcontractors shall submit apprenticeship agreements for all apprentices utilized on the Project.

END OF DOCUMENT

## SECTION 01 11 00 SUMMARY OF THE WORK

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. The project involves renovations to eight (8) Restrooms and construction of (8) New Laundry Rooms at the Indian River Juvenile Correctional Facility for the Ohio Department of Youth Services, Massillon, Ohio in Stark County. The project includes all work per the Construction Drawings and the Project Manual.
- B. The Contractor is to verify all existing dimension and conditions which may affect their Bid.
- C. The project when finished is to be 100 percent complete and accepted by the Owner.
- D. The Contractors need to be experienced and qualified to anticipate and understand the requirements and conditions associated with the construction for this type of renovation.
- E. It will be necessary to perform out-of-sequence work to accommodate continuity and use of temporary facilities. Work required to comply with this paragraph shall be included in the bid amount and will not be considered as addition/extra work.

#### 1.02 CONTRACTS

- A. Reference is made to the Bid Form.
- B. Construction Contract will be as follows:
  - 1. General Contracting.
- C. The General Trades, Plumbing, HVAC, and Electrical Work is specified in the Form of Agreement, the General Conditions, the Special Conditions, Divisions 1 through 26 of the Project Manual and the Construction Drawings.

#### 1.03 DEFINITIONS

- A. 'Provide' means to provide in place, furnish and install.

#### 1.04 BUILDING PERMITS

- A. The Structural, Plumbing, Mechanical, and Electrical PLAN APPROVAL certificate from the State of Ohio will be obtained and paid for by the Architect.
- B. Each Contractor will be responsible to obtain and pay for any additional permits and/or fees required and to contact all building inspectors as required to secure the occupancy permits.

#### 1.05 ASBESTOS CONTAINING MATERIALS

- A. The Contractor is not to install any materials containing asbestos. At the completion of this Project the Contractor is to provide a notarized letter stating that there were no asbestos containing materials installed.

#### 1.06 EXISTING CONDITION & UTILITIES

- A. This building will remain in operation during construction. All exit accesses are to remain clear and labeled at all times to maintain life safety. Work areas will be vacated by the occupants as contractors move to subsequent phasing areas. Contractor will be required to

- provide moving services related to owner furnishings and equipment as occupants vacate and reoccupy each phase area.
- B. The contractor will need to notify the a/e (24) hours prior to any work that is noisy or disruptive in any way. Comfort and security of the occupants is a priority.
  - C. The contractor will need to notify the architect (72) hours prior to the interruptions of any utilities. The contractor will need to provide adequate temporary power, hvac, etc.
  - D. It is the responsibility of the General Trades Contractor, prior to construction, to determine the actual locations and elevations of all utilities within the immediate area of work and to all connections, whether shown on the plans or not. Work taking place on site, in walls, between floors, or above ceilings may contact or abut existing utilities to remain. Contact the Owner for assistance in locating utilities. Contractor to repair or replace all damaged utilities affected by the construction process at no additional cost.

#### 1.07 POLICIES

- A. The State of Ohio will not permit the use of alcohol, weapon devices, firearms, profanity, etc. while on State property. Offenders will be removed from site.
- B. Sexual harassment will not be tolerated in any form. Prompt corrective measures will be taken to stop harassment in accordance with current policy.

END OF SECTION 01 11 00

## SECTION 01 14 00 SPECIAL WORK RESTRICTIONS

### 1.0 GENERAL

#### 1.01 WORK HOURS

- A. The Institution will be occupied throughout construction.
- B. All work shall be performed Monday through Friday during the hours of 7:30 a.m. and 4:30 p.m.
- C. No work shall be performed at other times, including Saturdays, Sundays or State holidays, unless written prior permission has been obtained from the Owner.

#### 1.02 CONTRACTOR ENTRANCE AND PARKING AREA

- A. Contractor's employees shall park off site in areas designated.
- B. Contractor trailers are restricted to areas designated.
- C. Contractor shall be responsible for keeping roads reasonably free, on a daily basis, from accumulated dirt and other materials resulting from activities at construction site.

#### 1.03 MATERIAL STAGING, DELIVERIES, AND PASSES

- A. All construction materials and supplies shall be staged in areas designated.
- B. Quantities of materials staged on property will be controlled by the Contractor.
- C. The Owner shall have the right to inspect any vehicle leaving the work site.

#### 1.04 CONTRACTOR SITE VEHICLES

- A. Authorized vehicles shall obey all site regulations for speed limits, "no parking" areas, changes in access routes, etc. Use of vehicles on the job site shall be considered a privilege which, if abused by the Contractor or his employees or subcontractors, the Owner has the right, without recourse by the Contractor, to deny to the Contractor.

#### 1.05 CONTRACTOR IDENTIFICATION

- A. Badges will be issued by the Owner upon application, to each of the Contractor's employees who will be at the site. These badges must be worn at all times. A list of workers and representatives with their corresponding badge numbers shall be maintained by the Contractor. This system will be maintained throughout the project.
- B. Special passes for visitors will be controlled and distributed by the Owner.

#### 1.06 RULES AND REGULATIONS

- A. Smoking, eating and break areas will be designated as the work progresses. Contractors, their employees, and representatives will not be permitted to use the Owner facilities (cafeterias, restrooms, telephones, locker rooms, etc.).

#### 1.07 PHASING

- A. The entire project is required to be completed in several phases to accommodate Owner occupied areas and ongoing operations. Contractors shall cooperate and assist with this requirement. Reference Scheduling of Work, Section 01 32 13.

END OF SECTION 01 14 00

SECTION 01 32 13 SCHEDULING OF WORK

1.0 GENERAL

1.01 DESCRIPTION

- A. Provide three (3) copies of the final Project Time Schedule to the A/E indicating all areas of work and shop drawings submittal schedule. REVISE SCHEDULE AS CHANGES TO THE WORK ARE APPROVED.
- B. By submitting the Bid, the bidder agrees that the periods for performing the Work are reasonable, and that the bidder’s work can be substantially complete by its applicable date(s) for substantial completion, as well as by any of the milestone dates identified that are applicable to its work.
- C. The milestone and completion dates below, and as agreed to at the time of contract execution, shall be adhered to unless modified by mutual agreement between the Contractor and the A/E. The Days after Notice to Proceed as listed below are calculated using calendar days. By submitting a bid, the contractor acknowledges that the number of days shown below establish the contract milestones and that the dates shown below are the individual milestone dates based on the Anticipated Notice to Proceed. The Contractor is responsible to maintain progress to achieve the milestones including shift work, overtime work, weekend work, supplemental labor and equipment, etc. at no additional cost.
- D. The Contractor shall allow for seven calendar days at the completion of each Phase punch list in order to reoccupy the completed Phase and to vacate the upcoming Phase. Contractor shall provide these transition periods as line items on the completed Project Schedule.
- E. Numbered milestones are contractually binding. Other items in sequential list comprise a series of suggested durations for scheduling purposes:

Milestones	Duration	Calendar Days After Notice to Proceed
1. Submittals Due	00	
2. Signed Schedules/Mobilization	00	
3. Phase 1 Complete	000 days	000
Phase 1 Punch List Complete	00 days	000
Phase 1-2 Transition	0 days	000
Phase 2 Complete	000 days	000
Phase 2 Punch List Complete	00 days	000
Phase 2-3 Transition	0 days	000
4. Draft O & M Manual Submission	000	
5. Phase 3 Complete	0 days	000
Phase 3 Punch List Complete	0 days	000
Phase 3 Move-In Period	0 days	000
6. Contract Completion Certificate		000

1.02 WEATHER DATA

- A. The Contract Time may be extended by Change Order for the number of days lost

due to inclement weather occurring in excess of the “Maximum Expected Days Lost” as shown on the following table. Actual weather experience will be recorded by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (USDC/NOAA). Inclement weather exists when one or more of the following occurs: the precipitation other than snow and ice exceeds 1/10” within a calendar day, when snow or ice accumulation exceeds 1.0 inch within a calendar day, when maximum temperature for the calendar day is 32 degrees F or below, or when any combination of these occurs simultaneously. The Contract Time shall not be extended unless actual inclement weather for a number of calendar days in excess of the “Maximum Expected Days Lost” for the Contract Time and that the completion of the work was, in fact, delayed because of such excess inclement weather.

### 1.03 SCHEDULE OF WORK

- A. If at any time the Contractor’s working force and equipment, in the opinion of the A/E shall be inadequate for securing the necessary progress or required quality of work as herein stipulated, the Contractor shall, if so directed, at his own expense, increase or supplement the working force and equipment and/or perform the work on an overtime or multiple shift basis to such an extent as to give reasonable assurance of compliance with the schedule of completion and the required quality of the work. When so directed by the A/E, the Contractor shall submit for approval such supplementary construction schedules as may be necessary to demonstrate the manner in which such compliance will be established. Failure to make such demands shall not relieve the Contractor of his obligation to secure the quality and the rate of progress required by the Contract; and the Contractor alone shall be and remain liable and responsible for the efficiency and adequacy of his methods, materials, working force, and equipment, irrespective of whether or not he makes any change as a result of any order or orders received from the A/E.
- B. Should the A/E require, either for convenience or to move the completion date forward or to otherwise accelerate schedules, causing the Contractor to perform contract work outside of the normal working hours, the Contractor shall do so, in which case the Contractor shall be reimbursed for actual premium payments made for labor overtime worked, with no allowance for overhead or profit. In the event that such overtime work is required the contractor shall, at the end of each day on which the overtime is worked, furnish daily time slips showing the name or number of each workman employed thereon with the time worked, the character of work performed and the wages to be paid. Loss of efficiency or productivity associated with multiple shift or overtime work, work whether affecting work on which overtime is spent or on other work under the contract, shall not be the basis for any claim for additional compensation by the Contractor.
- C. Reference Contract Form of Agreement for work not completed on time.

END OF SECTION 01 32 13

## SECTION 01 32 16 CONSTRUCTION PROGRESS SCHEDULE

### PART 1 GENERAL

#### 1.01 SUMMARY

- A. The purpose of the Construction Progress Schedule is to allow the Lead Contractor's Scheduling Consultant to prepare an orderly plan to aid in the timely completion of the Project.
  - 1. For clarity, activities performed by the Lead Contractor's Scheduling Consultant are indicated as the responsibility of the Lead Contractor, who retains contractual responsibility for their timely completion.
- B. The approved Construction Schedule will be used to plan and execute the work, to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis for all progress payments.
- C. Contractors must cooperate and coordinate with each other, and with the A/E and the Owner, to provide all Contract Document scheduling requirements in their respective schedules.
- D. Failure to maintain the Construction Schedule in an approved status may result in the Contracting Authority withholding a monetary penalty against the responsible Contractor(s) until the schedule is approved.
- E. Related Sections:
  - 1. Document 00 72 16 - General Conditions (Paragraphs 4.2 and 4.3)
  - 2. 01 32 13 – Scheduling of Work

#### 1.02 PROJECT SCHEDULING SEQUENCE REQUIREMENTS

- A. Upon receipt of a Notice to Proceed, the Lead Contractor will prepare a Construction Schedule for all work included under the scope of each Contract, in accordance with Subparagraph 4.3.2 of the General Conditions.
  - 1. The Lead Contractor will schedule and conduct a Schedule Kick-Off Meeting within two weeks of receipt of the Notice to Proceed. Contractors are required to attend.
    - a. The Lead Contractor will prepare and furnish to all contractors a Master Activity Coding template, in hard copy and disk, defining the Responsibility Code, Work Area Code, Milestones, Phase Code, etc. for the Construction Schedule, as outlined in this section. Contractors must submit subsequent schedule requirements in accordance with the Master Activity Code template to achieve continuity in merging scheduling input.

- b. The Lead Contractor will prepare and distribute a schedule framework of proposed construction sequence to all Contractors.
  2. The Lead Contractor will prepare and furnish a detailed schedule framework, in hard copy and disk, to Contractors within 21 calendar days after the Notice to Proceed
    - a. Contractors must utilize the detailed schedule framework to prepare their Construction Schedule for their specific scope of work.
    - b. Contractors must provide Construction Schedule requirements specified herein to the Lead Contractor so that they can prepare a fully coordinated Construction Schedule. The Lead Contractor must include in their bid and procure scheduling consultant services to meet these requirements, in accordance with the General Conditions.
- B. The Lead Contractor will submit the proposed Construction Schedule with signatures indicating approval by all contractors to the A/E within 30 days of Notice to Proceed.
1. If acceptable, the A/E and Contracting Authority will accept the schedule.
  2. If not acceptable, the schedule will be returned to the Lead Contractor for revision. The revised schedule, with approval signatures for all Contractors, must be resubmitted.

## PART 2 PRODUCTS

### 2.01 SCHEDULE SOFTWARE

- A. The computer software utilized by the Lead Contractor to produce the project schedule will be Primavera Products as marketed by Primavera Systems, Inc. or an approved substitution.

## PART 3 EXECUTION

### 3.01 CRITICAL PATH METHOD

- A. The Critical Path Method (CPM) of network calculations will be used to generate the schedule. The Lead Contractor must provide the schedule in either the Precedence Diagram Method (PDM) or the Arrow Diagram Method (ADM).

### 3.02 LEVEL OF DETAIL REQUIRED

- A. With the exception of the preliminary schedule submission, the Construction Schedule must include an appropriate level of detail. Failure of the Lead Contractor to develop or update the schedule or provide resource information will result in the disapproval of the schedule.

B. Activity Durations:

1. Submit the following data to support the schedule calendar as it relates to durations. Failure of the Lead Contractor to include this data will delay the review of the submittal until the A/E receives the missing data.
  - a. The proposed number of working days per week.
  - b. The holidays to be observed during the life of the contract (by day, month and year).
  - c. The planned number of shifts per day.
  - d. The number of hours per shift.
  - e. Break up the work into activities of a duration no longer than 20 work days each, except as to non-construction activities (i.e., procurement of materials, delivery of equipment, concrete and asphalt curing) and any other activities for which the Owner may approve a longer duration.

C. Procurement Activities:

1. Prepare the schedule in chronological order of submittals. Show specification section of the submittal, name of contractor and generic description of work covered. Include activities to cover the complete procurement process to include but not limited to: submittal, review, approval, resubmittal, procurement, fabrication, delivery, permits, and similar pre-construction work.

D. Manpower:

1. Activities must have an estimate of the average number of workers per day that are expected to be used during the execution of the activity.
2. Identification of manpower, material, or equipment restrictions, as well as any activity requiring unusual shift work, such as two shifts per day, six day work week, specified overtime, or work at times other than regular days or hours must clearly be identified in the Project Schedule.
3. Critical or near Critical Paths resulting from the use of manpower or equipment restraints must be kept to a minimum. Near Critical Paths are defined as paths having 10 workdays or less of total float.

E. Cost:

1. All activities must be cost loaded in a logical manner tying to each Contractor's Schedule of Values.

F. Responsibility:

1. All activities must be identified in the Construction Schedule by the party responsible to perform the work. Responsibility includes, but is not limited to, the Contracting Firm, the Subcontracting Firm, Contractor Workforce, or Agency performing a given task. Activities must not belong to more than one responsible party. The responsible party for each activity must be identified by the Responsibility Code.

G. Work Areas:

1. Arrange the schedule to show each major area of construction for each major category or unit of work.
2. All activities must be identified in the Construction Schedule by the work area in which the activity occurs. Activities must not be allowed to cover more than one work area. The work area of each activity must be identified by the Work Area Code.

H. Modification or Claim Number:

Any activity that is added or changed by a change order or used to justify any claimed time, must be identified by change order code that changed the activity. Activities may not belong to more than one change order.

I. Milestones:

1. Milestone dates are defined in calendar days following the date set forth in the Notice to Proceed and are required to be met by all Contractors. Time is of the essence for the completion of Milestones and for the Contract Completion date.
2. The following Milestone dates are defined in calendar days from the Notice to Proceed, and are to be adhered to by each Contractor.

M1: Submittals Due 00

M2: Signed Schedules/Mobilization 00

M3: Phase 1 Complete 000

M4: Draft O & M Manual Submission 000

M5: Phase 3 Complete 000

M6: Contract Completion Certificate 000

### 3.03 SCHEDULED PROJECT COMPLETION

A. Project Start Date:

1. The Construction Schedule may start no earlier than the date that the Notice to Proceed (NTP) was issued. The Lead Contractor must include as the first activity in the Construction Schedule an activity called “Notice to Proceed.” The “Notice to Proceed” activity must have: an “ES (early start) constraint, a constraint date equal to the date that the NTP was issued, and a zero day duration.

B. Constraint of Last Activity:

1. Completion of the last activity in the schedule must be constrained by the contract completion date. Calculation on project updates must be such that if the early finish of the last activity falls after the contract completion date, then the float calculation must reflect a negative float on the Critical Path. The Lead Contractor must include as the last activity in the Project Schedule an activity called “Contract Complete”. The “Contract Complete” activity must have a: “LF” (late finish) constraint, a constraint date equal to the completion date equal to the date identified in the NTP for the project, and a zero day duration.

#### 3.04 INTERIM COMPLETION DATES (MILESTONES)

- A. Contractually specified interim completion dates (Milestone dates) must also be constrained to show negative float if early finish date of the last activity in that phase falls after the interim completion date.

#### 3.05 HAMMOCK ACTIVITIES FOR CONTRACTS

- A. The Lead Contractor must include a hammock type activity for each Contractor. The Contractor activity must be logically tied to the earliest and latest activities in the Contractor’s Scope of Work. Hammock activities must be identified within “HA” at the beginning of the Activity ID.

#### 3.06 DEFAULT PROGRESS DATA DISALLOWED

- A. Actual Start and Finish dates must not be automatically updated by default mechanisms that may be included in the CPM Scheduling Software Systems. Actual Start and Finish dates and Remaining Durations on the CPM Schedule must match those dates provided from Contractor Daily Reports for every in progress or completed activity and insure that the data contained on the Daily Reports is the sole basis for schedule updating. Failure to comply may result in the disapproval of schedule.

#### 3.07 OUT OF SEQUENCE PROGRESS

- A. Activities that have posted progress without predecessors being completed (Out of Sequence Progress) must be allowed only by the case by case approval of the Owner. The A/E may direct that changes in schedule logic be made to correct any or all Out of Sequence Work.

### 3.08 NEGATIVE LAG(S)

- A. Lag durations contained in the schedule must not have a negative value.

### 3.09 DEFINITION OF, AND CONDITIONS RELATING TO FLOAT

- A. Float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any activity in the schedule. Total float is defined as the amount of time any given activity or path of activities may be delayed before it will affect the project completion time.
- B. Float is not time for the exclusive use or benefit of the Contractor, and must be used in the best interest of completing the project on time.
- C. Extensions of time for performance required under the General Conditions pertaining to equitable time adjustment will be granted only to the extent that the equitable time adjustment exceeds total float in the activity or path of activities affected at the time approval was issued for the change.
- D. Use of float suppression techniques such as preferential sequences, special lead/lag logic restraints, extended activity times, or imposed dates, other than as required by the Contract, must be cause for rejection of the Construction Schedule and any revisions or updates.

### 3.10 PRELIMINARY (90 DAY) CONSTRUCTION SCHEDULE SUBMISSION

- A. The preliminary Construction Schedule, defining the Contractor's planned operations for the first 90 calendar days must be submitted for approval within 30 calendar days after Notice to Proceed is issued. The approved preliminary schedule must be used for payment purposes and the basis for measuring Contractor progress not to exceed 90 days after Notice to Proceed is issued.

#### B. Schedule Review and Comments

1. Comments made by the A/E on the Construction Schedule during review must not relieve the Contractors from compliance with the requirements of the Contract Documents.

2. Following the Contractor's receipt of the A/E's review comments, the Contractors must correct the schedule to identify missing activities and relationships relevant to the Scope of Work. No time extensions will be granted to complete activities not initially included in the Contractor's Construction Schedule.
3. To the extent that there are any conflicts between the approved Construction Schedule and the requirements of the Contract Documents, the Contract Documents must govern.

#### C. Resubmittal of Project Schedule Following Disapproval

1. Should the A/E disapprove the Lead Contractors submission of the Construction Schedule, the Contractor must comply with the A/E's direction and must resubmit the Construction Schedule and all associated submittals within seven calendar days.

#### D. Construction Schedule Submission Requirements

1. 1. The Final Construction Schedule must be submitted for approval within 60 calendar days after Notice to Proceed is issued. It must provide a reasonable sequence of activities which represent work through the entire project and a reasonable level of detail.
2. The Construction Schedule must show the sequence and interdependence of activities required for complete performance of the work, beginning with Contractor's receipt of the Notice to Proceed and concluding with the date of Final Completion of the Contract. The Project Schedule must show all activities in workdays, with allowance for holidays and the effects of normal weather conditions on outside work.
3. The Construction Schedule must comply with all limits imposed by the Scope of Work, with all contractually specified intermediate milestones and completion dates, and with all constraints, restraints, or sequences included in the Contract.
4. The Construction Schedule network (graphic presentations) and computer tabulations, the Resource Loading curve and the Contractor's signatures must be submitted to the A/E for approval in six copies. Additionally, the Lead Contractor must submit two copies of the Primavera Products data on compact discs, containing the resource loaded Construction Schedule.
5. The following computer generated reports in hard copy must be required

as part of the Preliminary Construction and Final Construction Schedule submittals:

- a. Activity ID Report
- b. Total Float/Early Start Report
- c. Logic Report
- d. Resource Report
- e. Coding Dictionary

6. The schedule network (graphic presentation) must include:

- a. Activity ID
- b. Activity Description
- c. Original Durations
- d. Remaining Durations
- e. Early Start and Finish Dates
- f. Baseline Start and Finish Dates
- g. Total Float
- h. Percent Complete

7. The schedule must be sorted by Early Start and Total Float and must show both the Early and Target Schedule.

8. The Owner must approve or disapprove, in writing, the Lead Contractor's submission of the Construction Schedule and the associated submittals within 14 calendar days after the receipt of all required information. If the Construction Schedule is disapproved, the Owner must provide comments in writing to the Lead Contractor stating the reasons why the submission was disapproved.

#### E. Periodic Schedule Updates

1. The following computer generated reports in hard copy and on computer diskettes must be required as a part of the monthly update thereof as a condition precedent to the receipt of progress payments under the Contract.

2. The Contractor's monthly narrative report is to include:

- a. Activities started in the month (with actual start dates).
- b. Activities completed during the month (with actual start and completion dates).

- c. Activities in progress (with estimated remaining durations).
  - d. Activities scheduled to start in the next month (with estimated start dates).
  - e. A list of approved logic changes.
  - f. A list of proposed logic changes, new activities, and deleted activities.
  - g. Recommendations for adjusting the Construction Schedule to meet milestone completion and Contract completion dates (include why the schedule needs adjusting, i.e., change order, weather, contractor resources, etc.).
  - h. Attach copies of the Contractors' weekly schedule reports.
3. The Contractors graphic presentation of the schedule is to include:
- a. Activity ID.
  - b. Activity Description.
  - c. Original Durations.
  - d. Remaining Durations.
  - e. Early Start and Finish Dates.
  - f. Baseline Start and Finish Dates.
  - g. Total Float.
  - h. Percent Complete.
  - i. The schedule must be sorted by Early Start and Total Float and should show both the early schedule and the target schedule.
4. One compact disc for the update must be provided.
5. Computer generated reports are to include:
- a. Activity ID Report.
  - b. Total Float/Early Start Report.
  - c. Logic Report.
  - d. In Progress or Planned to Start Report.
  - e. In Progress or Planned to Finish Report.
  - f. Resource Report.

F. Two Week Look Ahead Schedule Submission

- 1. The Lead Contractor must provide a two week Look Ahead Schedule for review at the Weekly Progress/Coordination Meeting that occurs closest to the 15th of each month. The Look Ahead Schedule will be based on the

most recent monthly update and will show only those activities that are scheduled to begin or are in progress during the week before and for two weeks after the 15th of the current month. The two week Look Ahead Schedule reports will contain the following information for each activity and will be required from the Contractor throughout the duration of the project unless directed otherwise by the A/E.

- a. Activity I.D.
- b. Activity Description
- c. Original Duration
- d. Remaining Duration
- e. Early Start Date
- f. Early Finish Date
- g. Percent Complete
- h. Total Float
- i. Bar Graph Presentation

#### G. Standard Activity Coding Dictionary

1. The Lead Contractor must submit, with the Construction Schedule, a coding scheme that must be used throughout the project for all activity codes contained in the schedule. The coding scheme submitted must list the values for each activity code category and translate those values into project specific designations. For example, A Responsibility Code Value, "ELE", may be identified as "Electrical Subcontractor". Activity code values must represent the same information throughout the duration of the contract. Once approved with the Preliminary (first 90 calendar day) Project Schedule Submission, changes to the activity coding scheme must be approved by the A/E.

#### 3.11 DATA DISKS

A. One compact disc containing the preliminary, target and update Construction Schedules must be provided.

B. File Medium:

1. Only industry standard compact discs formatted using at minimum Windows 95 based operating system, are acceptable.

C. Disk Label:

1. The Lead Contractor must permanently label each compact disc submitted. The label must indicate the type of schedule (preliminary, target, update or change), full contract number, project name, project

location, data date, name and telephone number of person responsible for the schedule, and file name.

D. File Name:

1. The Lead Contractor must insure that each file submitted has a name related to the schedule data date, project name, or contract number. The Lead Contractor must develop a naming convention that will insure that the names of all the files submitted are unique. The Lead Contractor must submit the file naming convention to the A/E.

3.12 APPROVED CHANGES VERIFICATION

- A. Only Construction Schedule changes that have been previously approved by the A/E must be included in the schedule submission. The narrative report must specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.
- B. The Contractor must prosecute the work in accordance with the approved Construction Schedule. Out of sequence construction, defined as a change from the Construction Schedule in the Contractor's actual operation requires prior approval from the A/E.
- C. Upon the approval of a change order or the issuance of a unilateral change order by the Department the agreed upon change order activities, activity durations, logic and impacts must be reflected in the next schedule submittal by the Lead Contractor.
- D. No change to the approved activities, original activity durations, logic, interdependencies, milestones, planned sequence of operations, or resource loading of the Construction Schedule must be made without prior approval from the A/E. If the Contractor desires to make a change to the approved Construction Schedule, the Contractor must request permission from the A/E in writing, stating the reasons for the change as well as the specifics, such as the proposed changes in activities, original activity durations, logic, interdependencies, milestones, planned sequence of operations, or resource loading of the baseline Construction Schedule. The A/E must respond within 14 calendar days after the receipt of the Contractor's request.
- E. If the A/E considers the Construction Schedule change requested by the Contractor to be a major change, it may require the Contractor to revise and submit for approval, without additional cost to the Owner, all of the affected portions of the network diagrams, and any schedule reports, or construction

equipment reports deemed necessary to show the probable effect on the entire project. The proposed network revision and required reports must be submitted to the A/E within seven calendar days after the A/E notifies the Contractor that the requested revision is a major change. Only upon the approval of the requested change by the A/E may it be reflected in the next Construction Schedule update submitted by the Contractor.

- F. A change will be considered of a major nature if the time estimated for an activity or sequence of activities is varied from the original plan to the degree that there is reasonable doubt that the Contract Completion date or milestones will be met, or if the change impacts the work of other Contractors at the job site. Changes to activities having adequate float may be considered as minor changes, except that an accumulation of minor changes may be considered a major change when such changes affect the Contract Completion date or milestones.

### 3.13 SCHEDULE REPORTS

- A. The format of each activity for the schedule reports listed below must contain:

1. Activity ID Number(s).
2. Activity Description.
3. Original Duration.
4. Remaining Duration.
5. Early Start Date.
6. Early Finish Date.
7. Baseline Start Date.
8. Baseline Finish Date.
9. Total Float.
10. Actual Start and Actual Finish dates must be printed for those activities in progress or completed.

- B. Activity ID Report: A list of all activities sorted according to Activity ID number and then sorted according to Early Start Date. For completed activities the Actual Start Date must be used as the secondary sort.

- C. Logic Report: A list of preceding and succeeding activities for every activity in ascending order by activity number and then sorted according to Early Start Date. For completed activities the Actual Start Date must be used as the secondary sort.

- D. Total Float Report: A list of all activities sorted in ascending order of total float. Activities which have the same amount of total float must be listed in ascending order of Early Start Dates.

### 3.14 NETWORK DIAGRAM (GRAPHIC PRESENTATION)

- A. The network diagram is required on the preliminary, baseline and monthly schedule submissions. The network diagram must depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The A/E will use, but is not limited to, the following conditions to review compliance with this paragraph:
1. Continuous Flow: Diagrams must show a continuous flow from left to right. The Activity ID, description, original duration, remaining duration, early start and finish dates, target start and finish dates, total float and percent completed must be shown on the diagram.
  2. Project Milestone Dates: Dates must be shown on the diagram from start of any project, any contract required interim completion dates, and contract completion dates.
  3. Critical Path(s): The Critical Path(s) must be clearly shown.
  4. Banding: Activities must be grouped to assist in the clear understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

END OF SECTION

## SECTION 01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. The Contractor is to provide and/or complete the following items at the completion of the project.
1. Complete all punch list items.
  2. Final Application for Payment.
  3. Notarized letter guaranteeing all materials and workmanship for a period of one (1) year.
  4. Contractor's Affidavit of Payment of Debts and Claims
  5. Contractor's Affidavit of Release of Liens from the Contractor, subcontractors and material suppliers.
  6. Record drawings.
  7. Consent of Surety to final payment.
  8. Revised list of subcontractors and suppliers.
  9. Letter regarding the installation of asbestos containing materials.
  10. Completion Certificate
  11. Contractor's Certificate of insurance indicating coverage beyond completion date.
  12. Certificates of Demonstration for each item to be demonstrated.
  13. Signed building permit.
  14. Final occupancy certificate. (2 copies)
  15. Reports of all testing required. (2 copies)
  16. All Warranties as specified in Divisions 2 through 32. (2 copies)
- B. Upon completion of the Work, and as a condition of its acceptance, compile and submit Owner Maintenance Manuals for equipment.
- C. Closeout documents on electronic form:
1. Contractor to provide all information in the Owner Maintenance Manuals and AIA Documents stated above, scanned into electronic format. This data is to be provided in a PDF format to the A/E on a CD with Adobe Reader software to retrieve and view data. The database shall contain not less than 100 indices (PDF bookmarks).

#### 1.02 PROCEDURE

- A. Submit Contractor's punch list and Request for Final Inspection of the Work.
- B. Provide submittals to A/E that are required by governing authorities.
- C. Adjust operating products and equipment to ensure smooth and unhindered operation.

### 2.0 PRODUCTS

#### 2.01 MANUALS

- A. Each Contractor shall provide Owner Maintenance Manuals. Manuals shall be loose leaf, three-ring, hard-cover binders. Materials shall be type-written or printed and be fully legible. Each section shall be divided by labeled tabs.
- B. Prepare a Table of Contents for each volume with each product of system description identified.
- C. The following items, together with any other necessary pertinent data, shall be included in each Owner Maintenance Manual. This list is not necessarily complete and is to be used only as a guide. Reference each specification section for list of submittals.
  - 1. Each manual to be labeled on front cover with Project name, Contract, Contractor's name, A/E, Engineer and date of Project completion.
  - 2. Description of systems.
  - 3. Manufacturer's names, nearest Factory Representative and Model and Serial numbers of components of systems.
  - 4. Operating instructions, start-up and shut-down procedures.
  - 5. Maintenance and lubrication instructions. Include routine and emergency service information.
  - 6. Servicing instructions.
  - 7. Parts list with numbers of replaceable items, including sources of supply.
  - 8. Manufacturer's literature describing each piece of equipment.
  - 9. One approved copy of each Shop Drawing submitted.
  - 10. Copy of Owner's statement concerning completion of instruction period.\
  - 11. Routine and 24 hour emergency service/repair information:
    - a. Name, address and telephone number of service agency.
    - b. Names of personnel to be contacted for service arrangements.
  - 12. Written warranties.
- D. Include special wrenches, keys, etc.
- E. Submit draft of Owner Maintenance Manual to the A/E for review and approval prior to final inspection.
- F. Upon approval, provide (2) hard copies of Owner Maintenance Manuals for each Contract.

END OF SECTION 01 70 00

## SECTION 01 74 00 CLEANING AND WASTE MANAGEMENT

### 1.0 GENERAL

#### 1.01 REQUIREMENTS INCLUDED

- A. Contractor shall provide continual daily clean-up of construction material from the building and yard. At no time may ANY debris be allowed to accumulate.
- B. Clean equipment items as discussed below.

#### 1.02 SAFETY REQUIREMENTS

- A. Standards: Maintain project in accordance with Federal, State and Local Safety and Insurance Standards.
- B. Hazards control:
  - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
  - 2. Prevent accumulation of wastes which creates hazardous conditions.
  - 3. Provide adequate ventilation during use of volatile or noxious substances.
- C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
  - 1. Do not burn or bury rubbish and waste materials on project site.
  - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - 3. Do not dispose of wastes into streams or waterways.
  - 4. Haul material to a legal dump site.

#### 1.03 APPLICABLE STANDARDS

- A. Conform with:
  - 1. Environmental Protection Agency (EPA).
  - 2. OSHA.
  - 3. Federal, State and Local Laws.

### 2.0 PRODUCTS

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

### 3.0 EXECUTION

#### 3.01 DURING CONSTRUCTION

- A. Clean up:
  - 1. The Contractor shall furnish covered on-site (interior) rubbish collection containers and empty them into exterior rubbish collection containers on a daily basis. Contractor shall provide weekly exterior rubbish removal service. Never use the Owner's dumpster for this purpose.

2. Thoroughly clean up building and site of dusty residue once a week. NO DEBRIS ACCUMULATION IS ALLOWED AT ANY TIME. ALL SCRAPS, FASTENERS, PIECES, ETC., MUST BE CONTAINED AND PLACED INTO COVERED INTERIOR RUBBISH COLLECTION CONTAINER IMMEDIATELY.
  3. Prior to completion of the work, remove from the vicinity of the work all temporary structures, unused materials, concrete forms, and other like materials. All work areas shall be graded and left in a neat manner conforming to the natural appearance of the landscape or as directed elsewhere in the contract documents.
- B. Disposal of material by removal:
1. Prior to the completion of the work, remove from the construction area, all material designated to be removed.
  2. All material to be removed shall become the property of the Contractor. Remove and dispose of trash in a legal manner off the site. Be responsible for location of dump and length of haul.
  3. Make all necessary arrangements with private parties and with local officials pertinent to locations and regulations for dumping.
  4. Pay fees or charges required for dumping of materials.

### 3.02 EQUIPMENT CLEANING & TOUCH UP

- A. Clean interiors of all enclosures of dirt and debris before installing trim or covers.
- B. All finished surfaces of equipment shall be thoroughly cleaned of dirt and all scratched or damaged surfaces shall be touched up with matching material before final acceptance of the work. Dents and marred finishes shall be repaired.
- C. Rust spots on any part shall be brushed clean, primed and painted.
- D. The Contractor shall prime and paint all steel hangers, boxes, straps and rods which are not provided with rust-protective finish or damaged in installation. Paint to be zinc chromate primer and aluminum bronze. This applies to unfinished and mechanical spaces as well as “exposed to view” locations.

### 3.03 FINAL CLEANING

- A. Employ professional cleaners, for final cleaning at the completion of each Phase.
- B. Expedite the cleaning, washing, waxing and polishing required within other Sections of these Specifications. In addition, perform final cleaning to remove all foreign matter, spots, soil and construction dust, so as to get the Project in a complete and finished condition ready for acceptance and use intended. Remove all marks, stains, and fingerprints, and other soil or dirt from all painted, enameled or varnished work and all other exposed finished surfaces.
- C. Remove all glazing compound and sealant, stains and paint from all glass. Wash and polish glass, but do not scratch glass. At completion, replace all broken and scratched glass.
- D. Broom clean and mop floors that are not scheduled to receive finishing material

or coating.

- E. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior finished surfaces; polish bright surfaces to a shine finish.
- F. Repair, patch and touch-up marred surfaces to specified finish to match adjacent surfaces.
- G. Broom-clean paved surfaces.
- H. Ascertain that all drains are free of debris.

END OF SECTION 01 74 00

## SECTION 01 78 23 OPERATION AND MAINTENANCE DATA

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Upon completion of the Work, and as a condition of its acceptance, General Trades Contractor to compile and submit Owner Maintenance Manuals for material and equipment furnished by this Contractor as required under this Section. General Condition provisions shall take precedence over any conflicting provisions noted herein.
- B. Submit draft of Owner Maintenance Manual to the A/E for review at 70% completion per Milestone schedule indicated.
- C. Submit final corrected Owner Maintenance Manuals by date stated in Section 01 70 00.
- D. Upon approval, provide (2) hard copies of Owner Maintenance Manuals. Refer to Section 01 70 00 for requirements regarding electronic formatting of Owner Maintenance Manuals.
- E. Divisions 22, 23, and 26 Contractors are to reference General Provisions of their respective specifications herein.

#### 1.02 MANUALS

- A. Owner Maintenance Manuals shall be loose leaf, three-ring, hard-cover binders. Material shall be typewritten or printed and be fully legible. Each section shall be divided by labeled tabs.
- B. The following items, together with any other necessary pertinent data, shall be included in each Owner Maintenance Manual. This list is not necessarily complete and is to be used only as a guide.
  - 1. Each manual to be labeled on front cover with Project name, Contract, Contractor's name, A/E, and date of project completion.
  - 2. Operating instructions, start-up and shut-down procedures.
  - 3. Maintenance and lubrication instructions. Include routine and emergency service information.
  - 4. Servicing instructions.
  - 5. Revised list of subcontractors and suppliers.
  - 6. Manufacturer's product literature describing each material and piece of equipment.
  - 7. Approved copy of each Shop Drawing submitted.
  - 8. Written warranties.
  - 9. Testing reports.
  - 10. Copy of Owner's statement concerning completion of instruction period.

END OF SECTION 01 78 23

## SECTION 01 78 36 WARRANTIES

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Reference General Conditions Article 11.3
- B. Specific warranties or bonds called for in the Contract Documents, in addition to that falling under the general warranty as set forth in General Conditions, shall be furnished in accordance with the requirements of the specifications.
- C. Contractor shall and does hereby agree to warrant for a period of one year, or for longer periods, where so provided in the specifications, as evidenced by the date of Substantial Completion issued by the A/E, products installed under the contract to be of good quality in every respect and to remain so for periods described herein.
- D. Should defects develop in the aforesaid work within the specified periods, due to faults in products or their workmanship, the Contractor hereby agrees to make repairs and do necessary work to correct defective work to the A/E's satisfaction, in accordance with the General Conditions modified. Such repairs and corrective work, including costs of making good other work damaged by or otherwise affected by making repairs or corrective work, shall be done without cost to the Owner and at the entire cost and expense of the Contractor.
- E. Nothing herein intends or implies that the warranty shall apply to work which has been abused or neglected or improperly maintained by the Owner or his successor in interest.

#### 1.02 WARRANTY REQUIREMENTS

- A. When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.
- B. When work covered by a warranty has failed, and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Upon determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of contract documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the work through a portion of its anticipated useful service life.
- D. Written warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
  - 1. The Owner reserves the right to reject warranties and to limit selections to

products with warranties not in conflict with requirements of the contract documents.

### 1.03 SUBMITTALS

- A. Submit written warranties to the A/E prior to the date certified for substantial completion. If the A/E's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the work, or a designated portion of the work, submit written warranties upon request of the A/E.
- B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the A/E for approval prior to final execution.
- C. At final completion, compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
  - 1. (2) year warranty for masonry and brick work. (2 copies)
  - 2. (5) year warranty for waterproofing. (2 copies)
  - 3. (10) year warranty for water repellent. (2 copies)
  - 4. (3) year warranty for exterior insulation and stucco finish system. (2 copies)
  - 5. (20) year warranty single-ply sheet roofing. (2 copies)
  - 6. (25) year warranty for modified bitumen roofing. (2 copies)
  - 7. (5) year warranty for roof scuttle. (2 copies)
  - 8. (5) year warranty for joint sealant. (2 copies)
  - 9. (10) year warranty for aluminum windows. (2 copies)
  - 10. (10) year warranty for aluminum window color coating. (2 copies)
  - 11. (10) year warranty for closers. (2 copies)
  - 12. (3) year warranty for locksets. (2 copies)
  - 13. (10) year warranty for insulated glass. (2 copies)
  - 14. (5) year warranty for security glass. (2 copies)
  - 15. (10) year warranty for carpet. (2 copies)
  - 16. (2) year guarantee for carpet. (2 copies)
  - 17. (5) year warranty for special flooring. (2 copies)
  - 18. (15) year warranty for rigid wall insulation. (2 copies)
  - 19. (10) year warranty for mirrors. (2 copies)
  - 20. (3) year warranty for casework. (2 copies)
  - 21. (20) year warranty for Kynar coating on metal wall panels, roof panels, gutters, downspouts, etc.. (2 copies)
  - 22. (20) year watertight warranty for standing seam metal roofing. (2 copies)
  - 23. (20) year warranty for roof and wall panels due to rupture, structural failure or rusting. (2 copies)

- 24. (5) year warranty for detention windows. (2 copies)
- 25. (10) year warranty for acoustic ceiling systems. (2 copies)

D. Divisions 22, 23, and 28 Contractors are to provide warranties as indicated under those respective divisions.

2.0 PRODUCTS (not applicable)

3.0 EXECUTION (not applicable)

END OF SECTION 01 78 36

## SECTION 02 41 19 SELECTIVE STRUCTURE DEMOLITION

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Provide all demolition as shown on the drawings and as specified below. The demolition shown on the drawings and as specified is only a guide. Provide any demolition that is not shown on the drawings or in the specifications which is required to complete the demolition.
- B. ALL ITEMS TO BE DEMOLISHED ARE TO BE REVIEWED BY THE OWNER. THE CONTRACTOR IS TO DISPOSE OF ALL ITEMS THE OWNER DOES NOT WISH TO RETAIN.
- C. Work stipulated herein affects prime and subcontractors, and are general descriptions; such applies to similar conditions arising throughout, even though not stated.
- D. No attempt is made to stipulate every required item of demolition and patching, either on drawings or in specifications. Prime and subcontractors must visit and study physical conditions at site, review drawings, and reach their own conclusions on work necessary to accomplish intended results described by drawings and specifications.
- E. Certain work to be removed is designated on drawings and outlined in specifications for benefits of bidders, but even at such areas, complete list of work items required shall be bidder's responsibility.

#### 1.02 PROTECTION

- A. Complete demolitions and patching throughout so that at no time shall any portion of existing work be in danger. Maintain weathertight at all times.
- B. Provide weathertight, dust-tight, insulated barricades at exterior and interior locations approved by Owner's representative to isolate demolition work when continuing operations in existing structure could be adversely affected by the work. No barricades permitted overnight. New work must be installed immediately in openings in order to maintain secure integrity of facility.
- C. At completion, remove barricades, debris, dust, etc. and perform required clean-up stipulated elsewhere for each section of work.

#### 1.03 UTILITIES

- A. Rules and regulations governing the respective utilities shall be observed in executing work.
- B. Active utilities shown on drawings shall be adequately protected from damage, and moved or relocated only as indicated or specified.
- C. Active utilities not shown on the drawings shall be protected or relocated according to written instructions of the Owner's representative.
- D. Inactive or abandoned utilities encountered in operations shall be removed to at

least 18” below or adjacent to new work, and plugged or capped. Report to the Owner’s representative in writing the location of such abandoned lines.

#### 1.04 TASKS

- A. Secure and pay for required permits.
- B. All contractors shall adhere to the sequenced phasing requirements of the project as denoted in the Drawings.
- C. Perform exterior on-site demolitions required, necessitated by new construction or otherwise required by contract documents.
- D. Perform interior removals such as steel and/or concrete framing, etc., including cutting new openings together with whatever shoring, needling, lintel placement, or other work as necessary to accomplish same. Openings necessary for mechanical and electrical work will be performed by their respective trades.
- E. Partial or complete removal of sashes, flashings, etc. at exterior walls.
- F. Off-site disposal of debris resulting from demolition.
- G. Overall repair of general items, such as patching raw, unformed, or cut edges of concrete; toothing of brick, stone, etc. to be exposed.
- H. Patching of interior finishes such as plaster, drywall, ceramic tile, flooring and base, acoustical tile, paneling, etc. required at cut-into locations as well as any new such shown in existing constructions. This work shall match existing work throughout, and be in accordance with appropriate sections of project specifications.
- I. Painting and like finishing of patched or new surfaces, either to match present abutting finishes, or according to Section 09 90 00 of specification where matching requirements are not appropriate.

#### 2.0 PRODUCTS

(Not Used)

#### 3.0 EXECUTION

##### 3.01 PREPARATION

- A. Provide, erect and maintain temporary barriers and security devices.
- B. Erect and maintain weatherproof closures for exterior openings.
- C. Erect and maintain temporary partitions to prevent spread of dust, odors and noise to permit continued occupancy.
- D. Take precautions to protect the existing floors, walls, etc. that are to remain. The Contractor will be held responsible for any damage to the building, its contents or the site during the construction process.
- E. Prevent movement of structure. Provide required bracing and shoring.
- F. Mark location of existing utilities.

### 3.02 REQUIREMENTS

- A. Conduct demolition to minimize interference with adjacent building areas.
- B. The Contractor is responsible to provide temporary shoring as required to maintain the existing structure. The method of shoring is the responsibility of the Contractor.
- C. Cease operations immediately if structure appears to be in danger. Notify A/E. Do not resume operations until directed.
- D. Conduct operations with minimum interference to public or private accesses. Maintain protected egress and access at all times.

### 3.03 PROCEDURE

- A. Disconnect, remove or cap and identify designated utilities within demolition areas.
- B. Demolish in an orderly and careful manner. Protect existing supporting structural members.
- C. Except where noted otherwise, remove demolished materials from site. Do not burn or bury materials on site.
- D. Remove equipment and materials to be re-installed in a manner to prevent damage. Store and protect.
- E. Conduct an inventory of equipment and materials to be retained. Remove items designated by the Owner as salvageable, in a manner to prevent damage.
- F. Remove demolished materials from site as work progresses. Upon completion of work, leave areas in clean condition.
- G. Remove temporary work and restore all finishes damaged by temporary work.

END OF SECTION 02 41 19

## SECTION 03 30 00 CAST-IN-PLACE CONCRETE

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Perform work of this Section according to ACI 301-latest edition, "Specifications for Structural Concrete for Buildings", except as specifically modified herein. Numbers in parentheses (0.00) indicate a related paragraph of ACI 301.
- B. Section Includes: All cast-in-place concrete shown on the Drawings and required by these Specifications. Allow for the installation of cast-in-place items furnished under other Sections. Install anchor bolts for structural steel. Provide and install grout under steel column base plates and beam bearing areas.
- C. Provide concrete pads, piers, curbs, and bases required for equipment of all trades. Coordinate dimensions and details with requirements of equipment being supplied, prior to placing concrete.
- D. Coordinate the work of other trades who will provide and/or install items of work (sleeves, piping, conduit, inserts, etc.) to be cast in the concrete. Place no concrete until all such items are in place. ENCASEMENT OF ANY UNDERGROUND UTILITIES TO BE PROVIDED BY EACH CONTRACTOR.
- E. Inspection and testing services required by this Section are to be performed by an agency coordinated and scheduled by the Lead Contractor (16.2.1) and retained by the A/E. This includes not only the services required to establish mix designs, but also includes all field sampling and testing required by the Field Quality Control article of this Section.

#### 1.02 QUALITY ASSURANCE

- A. Reference Standards:
  - 1. ACI 318-latest edition, Building Code Requirements for Reinforced Concrete.
  - 2. ACI 315R-latest edition, Manual of Standard Practice for Detailing Reinforced Concrete Structures.
  - 3. ACI 347R-latest edition, Guide to Formwork for Concrete.
  - 4. "Placing Reinforcing Bars", CRSI & WCRSI Recommended Practice.

#### 1.03 SUBMITTALS

- A. Submit a mix design for each class of concrete required (1.6.3). Concrete proportions shall be established on the basis of previous field experience or trial mixtures (4.2.3).
- B. Submit shop drawings for all reinforcing. Indicate strength, size, and details of all bar reinforcing, and style and specification of all welded wire fabric (3.1.1).
- C. Submit product literature and MSDS for admixtures and curing compounds proposed for use.
- D. Submit reports for all required testing and inspection.

## 1.04 FIELD REFERENCE MANUALS

- A. Provide at least one copy of the ACI Field Reference Manual, SP-15, and one copy of CRSI's "Placing Reinforcing Bars", in the field office at all times (1.4.3).

## 2.0 PRODUCTS

### 2.01 MATERIALS

- A. Cement (4.2.1.1); Portland Cement, ASTM C150, Type I. Type II or III (high early strength) may be used with written approval and at the Contractor's expense. All cement for concrete exposed to view to be from the same mill.
- B. Water; potable.
- C. Aggregates; ASTM C33, (4.2.1.2). Use size No. 57 coarse aggregate, unless otherwise indicated.
- D. Admixtures (where required or permitted);
  - 1. Water-reducing; ASTM C494, Type A or D (4.2.1.4).
  - 2. Mid-range water-reducing admixture; ASTM C494, Type A (4.2.1.4).
  - 3. Air-entraining; ASTM C260.
  - 4. High-range water-reducing admixture (superplasticizer); ASTM C494, Type F or G (4.2.1.4).
  - 5. Non-chloride, non-corrosive accelerator; ASTM C494, Type C or E (4.2.1.4).
  - 6. Fly ash; ASTM C618, Type C or F (4.2.1.1).
  - 7. Calcium chloride is NOT permitted (4.2.2.6).
  - 8. Use of admixtures other than those listed will be permitted only when approved prior to bid.
- E. Reinforcing Steel (3.2.1):
  - 1. Deformed bars; ASTM A615, A616, A617, or A706. Minimum yield strength to be 60 ksi.
  - 2. Welded wire fabric; ASTM A185. Provide in sheet form for all uses other than slabs-on-grade.
  - 3. Contractor to provide an allowance of (1) ton of additional reinforcing steel.
- F. Preformed expansion joint filler; ASTM D1751 (2.2.1.4).
  - 1. Acceptable products include, but are not limited to:
    - a. Elastite by Philip Carey Company.
    - b. Flexcell by Celotex Corporation.
    - c. Korkpak by Servicized Products Corporation.
    - d. Corkfill or Fibre Joint by W.R. Meadows.
    - e. Symons Expansion Joint by Symons.
    - f. Fiber Expansion Joint by Burke.
  - 2. Additional expansion joint types for finish applications as indicated on the Floor Plans.
- G. Curing compound and sealer; ASTM C-309 moisture retention. The compound shall be a water based membrane forming liquid, 15% solids content minimum.

The following are acceptable:

1. Super Diamond Clear VOX, by Euclid.
  2. Super Aqua – Cure VOX, by Euclid.
  3. VOCOMP25, by W.R. Meadows.
- H. Interior color hardener; comply with ASTM C979 for color stability. Quartz-silica mixture of finely graded nonmetallic aggregates, plasticizer and cement binder, “Surflex” as manufactured by The Euclid Chemical Company. Hardener shall comply with EPA’s VOC requirements. Color as selected by A/E. Apply at a rate of 1-1/2 pounds per square foot. Similar materials as manufactured by the following are considered equivalent:
1. Master Builders
  2. Sonneborn
  3. L.M. Scofield
- I. Interior sealing compound; rubber resin, copolymer curing compound and sealer “Super Floor Coat Colored” as manufactured by The Euclid Company. Compound shall comply with EPA’s VOC requirements. Apply at manufacturer’s written recommended application rates. Similar materials as manufactured by:
1. Master Builders
  2. Sonneborn
  3. L.M. Scofield
- J. Grout for masonry core fill; ASTM C476, coarse type.
- K. Grout under steel base plates and bearing plates; non-shrinking, metallic or non-metallic, with minimum 28-day strength of 5000 psi, when mixed to a fluid consistency. The following are acceptable:
1. Embeco 636, by Master Builders.
  2. Ferrolith G, by Sonneborn.
  3. Crystex, by L and M Construction Chemicals.

## 2.02 MIXES

- A. The following classes of concrete are required (4.2.2.8):

Type	F’c (28 day)	Min. Cement Content	Max. Water Cement Ratio	Air Content
Class I Footings, piers, and all other below grade concrete	3,000 PSI	470	--	Optional
Class II Interior slabs on grade and all interior conc. not identified	3,500 PSI	517	.5	None

Class III					
Exterior slabs on grade, site concrete and any concrete exposed to weather	4,000 PSI	564	.4		5 to 7%
Class IV					
Lean concrete, backfill below footings	1,500 PSI	376	--		Optional

- (1) Slump; maximum 5" for all members. If a superplasticizer is used, initial slump to be 2" to 3", increased to 8" maximum after addition (at the job site) of the superplasticizer.
- (2) Fly ash is permitted in all classes, but shall not exceed 15% of cement weight indicated above and can be included in the water-to-cement ratio.
- (3) All admixtures (other than superplasticizer) are to be added at the batch plant. Superplasticizers, designed for addition to the mix at the plant, may be added at the batch plant with verification from the Structural Engineer and verification that the water-to-cement ratio has not been exceeded.

### 3.0 EXECUTION

#### 3.01 SURFACE CONDITIONS

- A. Verify that excavations are free of water and ice, are of the required dimensions and have been approved by the Soils Engineer prior to placing concrete (5.3.1).
- B. Determine field conditions by actual measurement.
- C. Notify the A/E not less than 24 hours in advance of placing concrete. Place concrete only when the A/E is present, unless this requirement is specifically waived.

#### 3.02 FORMWORK AND REINFORCING

- A. Footings may be cast against earth cuts when soil conditions permit (4.1.3).
- B. Removal of Forms and Shoring:
  1. Remove no forms within the first 24 hours after placement.
  2. Remove all shoring prior to constructing masonry walls supported by the structure.
- C. Reinforcing:
  1. Welding of reinforcing is prohibited, except where shown.

#### 3.03 EMBEDDED ITEMS

- A. Install embedded conduit, pipes and sleeves subject to the following limitations:
  1. Do not embed aluminum without prior approval of coating material.
  2. Do not displace reinforcing steel.
  3. In slabs, limit outside dimension of conduits and pipes to 1/3 member thickness. Where conduits cross, maintain same minimum concrete cover as required for reinforcing bars.
  4. In piers, limit total area of pipes and conduit to 4% of pier area.
  5. Maintain a center-to-center spacing of at least three diameters of conduit or pipe.

### 3.04 JOINTING

- A. Interior slabs on grade;
  - 1. Locate control (contraction) joints as shown on the drawings. In the absence of information on drawings, locate at openings, walls, columns, grid lines, inside corners. For reinforced or unreinforced slabs, maximum joint spacing in feet to be 2-1/2 times slab thickness in inches (i.e., for 4" slabs, at 10'-0" on center). Schedule slab pours and sawcutting operations such that sawing is completed prior to onset of shrinkage cracking (5.3.5).
  - 2. Provide isolation joints at columns (1/2 inch thick) and at walls (1/8 inch thick). Where isolation joint will be exposed to view, set top of joint filler below top of slab a distance equal to the filler thickness, to receive sealant. Where not exposed to view, set top of filler flush with top of slab.
  - 3. Where joints are exposed to view in the finished building, provide joint sealant.
- B. Exterior slabs on grade; locate joints as shown on the Drawings. In the absence of information on the Drawings, provide the following:
  - 1. Expansion Joints: Full depth, with 1/2 inch joint filler, where slabs abut vertical surfaces, at intersections of sidewalks, at abrupt changes in width, and at a spacing not exceeding 30 feet.
  - 2. Control Joints: Tooled, 7/8 inch deep, 4'-0" to 6'-0" on center between expansion joints.

### 3.05 FINISHES

- A. Schedule of finishes on flatwork is as follows:
  - 1. Typical interior floor areas to receive adhesive-applied finish, or to remain exposed-troweled finish (5.3.4.2.c).
  - 2. Interior floor areas to receive ceramic tile-floated finish (5.3.4.2.b).
  - 3. Exterior slabs - broom finish (5.3.4.2.d).

### 3.06 FINISHING TOLERANCES

- A. Surfaces of floor slabs shall be finished to the following tolerances, per ACI 117 (5.3.4.3):
  - 1. Minimum flatness of F (f) 25, and a minimum levelness of F(I) 20, are required for typical slabs on grade. Preceding values are average values to be obtained over a given area. Minimum local values (one-half bay) of F (f) 15 and F (I) 12 shall be obtained.
- B. Any bay not conforming to the above flatness and levelness requirements is subject to: repair, or removal; replacement; and retesting; at no expense to the Owner.

### 3.07 HARDENERS, CURING AND SEALING

- A. Temperature:
  - 1. When air temperature during placement is less than 40 degrees, or will be within 24 hours, temperature of concrete as placed is to be between 50 and 90 degrees F (55 and 90 degrees F for sections less than 12 inches thick) and a non-chloride accelerator shall be used. Maintain concrete temperature within these limits for the full curing period of seven days. (4.2.2.7 and 5.3.1.6).
  - 2. When air temperature during placement is greater than 80 degrees, a water

reducing retarder shall be used.

B. Hardener, curing, and sealing:

1. Interior slab areas which will receive floor finish are to be moist-cured, without the use of a curing compound (5.3.6.4.a through 5.3.6.4.c).
2. All other non-color interior concrete floor slab areas are to receive an application of curing and sealing compound (5.3.6.4.e), except that when concrete above grade is placed in the open and the air temperature exceeds 60 degrees, the concrete is to be moist-cured for the first 24 hours.
3. Exterior concrete to receive an application of curing and sealing compound.
4. AT COMPLETION OF PROJECT ANOTHER APPLICATION OF INTERIOR SEALING COMPOUND IS REQUIRED.
5. Whichever curing method is used, it is to commence immediately after placement and continue for at least seven days (5.3.6.1). Do not allow curing to be delayed overnight.
6. Prevent excessive moisture loss from formed surfaces (5.3.6.3). If forms are removed before seven days have elapsed, cure the formed surfaces by moist-curing or application of curing compound for the remainder of the curing period.

### 3.08 DELIVERY AND PLACEMENT

A. Preparation Before Placement:

1. Remove all debris from forms.
2. Do not use additives or salts to remove ice.
3. In cold weather, maintain temperature of forms and reinforcing such that concrete temperature can be kept within the specified range.

B. Delivery:

1. Conform to ASTM C94-latest edition.
2. ASTM C94 requires discharge within 1-1/2 hours or 300 revolutions, whichever comes first, after the introduction of water to cement and aggregates, or the introduction of cement to the aggregates. The A/E may require an earlier discharge during hot weather or when high-early strength cement is being used.
3. Place concrete at the maximum slump for which the mix was designed with a tolerance of up to 1 inch above the maximum for one batch in any five consecutive batches tested.

C. Placement:

1. Place within 6 feet of final position. Spreading with vibrators is prohibited.
2. In walls and columns, deposit concrete in uniform horizontal layers with a maximum depth of 5 feet.
3. Maximum free fall without chutes or elephant trunks to be 5 feet.

### 3.09 FIELD QUALITY CONTROL

- A. Obtain concrete for required tests at point of placement (1.6.4.3).
- B. For each concrete class, other than lean concrete, perform one strength test for each 100 yards, or fraction thereof, placed in any one day (1.6.4.2.d).
- C. Determine slump for each strength test (1.6.4.3.f).
- D. Determine air content for each strength test of concrete (1.6.4.2.h).
- E. Determine concrete temperature for each strength test (1.6.4.2.g).
- F. Do not place concrete when slump, air content or temperature vary from allowable.
- G. Determination of the flatness and levelness of a concrete slab shall be made on the

ODYS INDIAN RIVER FACILITY

RESTROOM/LAUNDRY ROOM RENOVATIONS

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day following placement of the first concrete pour. Tests shall be made in accordance with ASTM E1155.

- H. Maintain records of all tests, indicating exact location of the structure represented by each test.
- I. Test cylinders shall be stored at the jobsite for the first 20 hours, plus or minus 4 hours, in a protected location, with the temperature maintained between 60 and 80 degrees, or results shall be considered unacceptable.

END OF SECTION 03 30 00

## SECTION 03 53 00 CONCRETE TOPPING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Emery-aggregate concrete floor topping.
- B. Related Sections include the following:
  - 1. Division 03 Section "Cast-in-Place Concrete" for concrete slab construction and finish and concrete **topping slabs, overlays and fills**.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

#### 1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage, mixing with other components, and application.
- B. Store materials to comply with manufacturer's written instructions to prevent deterioration from moisture or other detrimental effects.

## 1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with manufacturer's written instructions for substrate temperature and moisture content, ambient temperature and humidity, ventilation, and other conditions affecting concrete floor topping performance.
  - 1. Place concrete floor topping only when ambient temperature and temperature of base slabs are between 50 and 86 deg F.
- B. Close areas to traffic during topping application and, after application, for time period recommended in writing by manufacturer.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Emery-Aggregate Concrete Floor Topping:
    - a. Dayton Superior Corporation; Emery Tuff Top.
    - b. Emery-Crete, Inc.; Emery-Crete.
    - c. L&M Construction Chemicals, Inc.; Emerytop 400.
    - d. Metalcrete Industries; Met-Top E.
    - e. Vexcon Chemicals, Inc.; Emery-Crete SH.

### 2.2 CONCRETE FLOOR TOPPINGS

- A. Emery-Aggregate Concrete Floor Topping: Factory-prepared and dry-packaged mixture of graded, crushed emery aggregate containing not less than 50 percent aluminum oxide, not less than 24 percent ferric oxide, and not more than 8 percent silica; portland cement or blended hydraulic cement; plasticizers; and other admixtures to which only water needs to be added at Project site.
  - 1. Compressive Strength (28 Days): **7000 psi**; ASTM C 109/C 109M.

### 2.3 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- B. Water: Potable.

### 2.4 RELATED MATERIALS

- A. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, **epoxy resin with a Type A Shore durometer hardness of 80** per ASTM D 2240.

- B. Epoxy Adhesive: ASTM C 881, Type V, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class and grade to suit requirements.

## 2.5 MIXING

- A. Floor Topping: Mix concrete floor topping materials and water in appropriate drum-type batch machine mixer or truck mixer according to manufacturer's written instructions.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for conditions affecting performance of concrete floor topping.
- B. Verify that base slabs are visibly dry and free of moisture. Test for capillary moisture by the plastic sheet method according to ASTM D 4263.
- C. Proceed with application only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Existing Concrete: Remove existing surface treatments and deteriorated and unsound concrete. Mechanically abrade base slabs to produce a heavily scarified surface profile with an amplitude of 1/4 inch.
  - 1. Prepare and clean existing base slabs according to concrete floor topping manufacturer's written instructions. Fill voids, cracks, and cavities in base slabs.
  - 2. Mechanically remove contaminants from existing concrete that might impair bond of floor topping.
  - 3. To both sides of joint edges and at perimeter of existing base slab [**mechanically remove a 4-inch wide and 0- to 1-inch deep, tapered wedge of concrete and retexture surface.**]
- B. Install joint-filler strips where topping abuts vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
  - 1. Terminate full-width, joint-filler strips 1/2 inch below topping surface where joint sealants, specified in Division 07 Section "Joint Sealants," are indicated.
  - 2. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

### 3.3 FLOOR TOPPING APPLICATION

- A. Monolithic Floor Topping: After textured-float finish is applied to fresh concrete of base slabs specified in Division 03 Section "Cast-in-Place Concrete," place concrete floor topping while concrete is still plastic.

- B. Deferred Floor Topping: Within 72 hours of placing base slabs, mix and scrub bonding slurry into dampened concrete to a thickness of 1/16 to 1/8 inch, without puddling. Place floor topping while slurry is still tacky.
- C. Existing Concrete: Apply epoxy-bonding adhesive, mixed according to manufacturer's written instructions, and scrub into dry base slabs to a thickness of 1/16 to 1/8 inch, without puddling. Place floor topping while adhesive is still tacky.
- D. Place concrete floor topping continuously in a single layer, tamping and consolidating to achieve tight contact with bonding surface. Do not permit cold joints or seams to develop within pour strip.
  - 1. Screed surface with a straightedge and strike off to correct elevations.
  - 2. Slope surfaces uniformly where indicated.
  - 3. Begin initial floating using bull floats to form a uniform and open-textured surface plane free of humps or hollows.
- E. Finishing: Consolidate surface with power-driven floats as soon as concrete floor topping can support equipment and operator. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until concrete floor topping surface has a uniform, smooth, granular texture.
  - 1. Hard Trowel Finish: After floating surface, apply first trowel finish and consolidate concrete floor topping by power-driven trowel without allowing blisters to develop. Continue troweling passes and restraighten until surface is smooth and uniform in texture.
    - a. Finish and measure surface so gap at any point between surface and an unleveled freestanding 10-foot long straightedge, resting on 2 high spots and placed anywhere on the surface, does not exceed 1/4 inch.

### 3.4 PROTECTING AND CURING

- A. General: Protect freshly placed concrete floor topping from premature drying and excessive cold or hot temperatures.
- B. Evaporation Retarder: Apply evaporation retarder to concrete floor topping surfaces in hot, dry, or windy conditions before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying floor topping, but before float finishing.
- C. Begin curing immediately after finishing concrete floor topping. Cure by one or a combination of the following methods, according to concrete floor topping manufacturer's written instructions:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than 7 days with **water**.

### 3.5 JOINT FILLING

- A. Prepare and clean contraction joints and install semirigid joint filler, according to manufacturer's written instructions, once topping has fully cured.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semirigid joint filler full depth of contraction joints. Overfill joint and trim semirigid joint filler flush with top of joint after hardening.

### 3.6 REPAIRS

- A. Defective Topping: Repair and patch defective concrete floor topping areas, including areas that have not bonded to concrete substrate.

### 3.7 FIELD QUALITY CONTROL

- A. Testing Services: Testing and inspecting of completed applications of concrete floor toppings shall take place in successive stages, in areas of extent and using methods as follows:
  - 1. Sample Sets: At point of placement, a set of 3 molded-cube samples shall be taken from the topping mix for the first 1000 sq. ft., plus 1 set of samples for each subsequent 5000 sq. ft. of topping, or fraction thereof, but not less than 6 samples for each day's placement. Samples shall be tested according to ASTM C 109/C 109M for compliance with compressive-strength requirements.
  - 2. Concrete floor topping shall be tested for delamination by dragging a steel chain over the surface.
  - 3. Concrete floor topping shall be tested for compliance with surface flatness and levelness tolerances.
- B. Remove and replace applications of concrete floor topping where test results indicate that it does not comply with specified requirements.
- C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

END OF SECTION 03 53 00

## SECTION 04 05 13 MASONRY MORTARING

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Provide mortar for all building masonry.

#### 1.02 RELATED WORK

- A. Documents affecting this work shall include but are not limited to Bidding Requirements, General and Special Conditions and Division 1.
- B. Section 04 22 00 Concrete Unit Masonry

#### 1.03 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver cement and lime materials in original, unopened containers.
- B. Store cement and lime materials off ground, under cover, and protected from weather damage.
- C. Do not change source or brands of colored mortar material during the course of the work.

#### 1.04 SUBMITTALS

- A. Submit product literature and installation instructions prior to the start of construction.

### 2.0 PRODUCTS

#### 2.01 MATERIALS

- A. Portland Cement: ASTM C150, Type I or III, non-staining, without air entrapment and of natural color or white, to produce the required color of mortar or grout.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C150, Type I or III, and or hydrated lime complying with ASTM C207.
  - 1. For pigmented mortars, use colored portland cement lime mix of formulation required to produce color to be selected from manufacturer's standard formulations to match existing mortar in similar masonry installations at same facility. Pigment shall not exceed 10 percent of portland cement by weight for mineral oxides nor 2 percent for carbon black.
- D. Masonry Cement: ASTM C91. For non-structured brick and CMU only. Not to be used for "Engineered Masonry".

- E. Mortar Cement: ASTM C1329. For structural or “Engineered Masonry” as an option to Portland Cement-Lime Mix.
- F. Aggregates: ASTM C144, except for joints less than ¼ inch, use aggregate graded with 100 percent passing the No. 16 sieve.
- G. Water: Potable, clean, free of deleterious materials which would impair strength or bond.
- H. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.
- I. Epoxy Pointing Mortar: ASTM C395.
- J. Integral Water Repellent Admixture (Exterior): An integral liquid polymeric admixture intended for use with concrete masonry unit’s containing integral water repellent.

2.02 MORTAR MIXES

- A. Do not use calcium chloride in mortar or grout.

TABLE A1  
Guide for the Selection of Masonry Mortars

Location	Building Segment	Mortar Type
Interior	Loadbearing wall	N
	Non-loadbearing partitions	O

3.0 EXECUTION

3.01 INSTALLATION

- A. Use accurate measuring devices. Shovel count not acceptable.
- B. Mix all cementitious materials and sand in a mechanical batch mixer for a minimum of 5 minutes. Use all mortar within 2-1/2 hours of the initial mixing. Discard mortar off-site after single re-tempering.

END OF SECTION 04 05 13

## SECTION 04 05 23 MASONRY ACCESSORIES

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. This Section includes unit masonry assemblies consisting of the following:
1. Masonry joint reinforcement.
  2. Miscellaneous masonry accessories.

#### 1.02 RELATED WORK

1. Documents affecting this work shall include but are not limited to Bidding Requirements, General and Special Conditions and Division 1.
2. Section 04 22 00 Concrete Unit Masonry

#### 1.03 SUBMITTALS

- A. Product Data: For each different masonry unit, accessory, and other manufactured product specified.

### 2.0 PRODUCTS

#### 2.01 CONTINUOUS WIRE REINFORCING AND TIES FOR MASONRY

- A. Masonry Joint Reinforcement, General ASTM A951.
- B. Provide welded wire units prefabricated in straight lengths of not less than 10 foot, with matching corner ("L") and intersection ("T") units.
- C. Fabricate from cold drawn steel wire complying with ASTM A82, with deformed or embossed continuous side rods and plain cross-rods, with unit width of 1-1/2 to 2 inches less than thickness of wall or partition.
- D. Wire shall be mill galvanized and in accord with the following:
1. Joint reinforcement, interior walls ASTM A641  
exposed to relative humidity less than mill galvanized  
or equal to 75 percent. (010 oz. per sq.ft.)
  2. Wire ties or anchors in interior walls or ASTM A641, Class 1  
exposed to relative humidity less than (0.35 oz. per sq.ft.) or equal to 75 percent.
  3. Sheet metal ties or anchors, interior walls ASTM A653, G60  
or exposed to relative humidity less than (0.60 oz. per sq.ft.) or equal to 75 percent.
- E. For single wythe and composite masonry, provide ladder type joint reinforcing fabricated with a minimum two W1.7 or 0.148 inch steel side rods and W1.7 or 0.148 inch cross rods.

### 3.0 EXECUTION

#### 3.01 EXAMINATION

- A. Examine conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
  - 1. For the record, prepare written report, endorsed by installer, listing conditions detrimental to performance.
  - 2. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Before installation, examine rough-in and built-in construction to verify actual locations of piping connections.

#### 3.02 MORTAR BEDDING AND JOINTING

- A. Lay hollow masonry units as follows:
  - 1. With full mortar coverage on horizontal and vertical face shells.
- B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than the joint thickness, unless otherwise indicated.
- C. Built-in Work: As the work progresses, build in items specified under this and other Sections of these Specifications. Fill in solidly with masonry around built-in items.
  - 1. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of grout stop mesh in the joint below and rod mortar or grout into core.
  - 2. Fill cores in hollow concrete masonry units with grout 3 courses (24 inches) under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.
  - 3. Take particular care to embed all conduits and pipes with concrete masonry without fracturing exposed shells and to fit units around switch, receptacle and other boxes set in walls. Where electric conduits, outlets, switch boxes, and similar items occur, grind and cut units before building in services.
  - 4. Install anchors and related work built into masonry work, where indicated.

#### 3.03 MASONRY JOINT REINFORCEMENT

- A. General: Provide continuous masonry joint reinforcement as indicated. Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch (13 mm) elsewhere. Lap reinforcement a minimum of 6 inches (150 mm).
  - 1. Space reinforcement not more than 16 inches (203 mm) o.c., unless otherwise indicated.
  - 2. In addition to continuous reinforcement, provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.

- B. Cut or interrupt joint reinforcement at control joints, unless otherwise indicated.
- C. Provide continuity at corners and wall intersections by using prefabricated “L” and “T” sections. Cut and bend reinforcing units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

END OF SECTION 04 05 23

## SECTION 04 22 00 CONCRETE UNIT MASONRY

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Provide unit masonry work as indicated. Work includes:
  - 1. Concrete masonry units and accessories.

#### 1.02 RELATED WORK

- A. Documents affecting this work shall include, but are not limited to Bidding Requirements, General and Supplemental Conditions, and Division 1.

#### 1.03 QUALITY ASSURANCE

- A. General: Appoint at least one supervisory journeyman mason who shall be present at all times and direct work performed under this Section. Supervisor shall be thoroughly familiar with design requirements, type of materials being installed, referenced standards, and other requirements.
  - 1. Use skilled journeyman masons for cutting and placing of unit masonry. In acceptance or rejection of installed unit masonry, no allowance will be made for lack of workmen's skill.
  - 2. Comply with applicable codes, regulations, and standards. Where provisions of applicable codes, regulations, and standards conflict with requirements of this Section, the more demanding shall govern.
- B. Consult other trades and make provisions to permit installation of their work in a manner to avoid cutting and patching. Build in work specified under other Sections, as necessary, and as work progresses.
- C. Unit Masonry Standard: Comply with ACI 5301/ASCE 6 / TMS 602-92 "Specifications for Masonry Structures", except as otherwise indicated.
  - 1. Revise ACI 530.1/ASCE 6 / TMS 602 to exclude Section 1.7; Part 2.1.3; and Articles 1.5.1.2 and 1.5.1.3; and to modify Articles 2.1.1.4 by deleting requirements for installing vent pipes and conduits built into masonry.
- D. Single-Source Responsibility for Masonry Units: Obtain exposed masonry units from one manufacturer for each different product required for each continuous surface or visually related surface.

#### 1.04 SUBMITTALS

- A. Submit product data for each different masonry unit, accessory, and other manufactured product indicated.
  - 1. Include a list of manufactured mortar ingredients for mortar products proposed to be used on the project.
- C. Submit material certificates for the following signed by manufacturer and Contractor

certifying each material, as installed, complies with requirements indicated.

1. Each different cement product required for mortar and grout including name of manufacturer, brand name, type and weight slips at time of delivery.
  2. Each material and grade indicated for reinforcement.
  3. Each type and size of anchors, ties, and metal accessories.
- D. Submit qualification data specified in “Quality Assurance”. Include list of completed projects with project names, addresses, telephone numbers, names of Architects and Owners, and other information specified.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle masonry units off the ground, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet, do not place until units are in an air-dried condition.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Store masonry accessories including metal items to prevent corrosion and accumulation of dirt and oil.

#### 1.06 PROJECT CONDITIONS

- A. Protect surfaces of windows and door frames; as well as similar products with painted and integral finishes from mortar droppings.

#### 1.07 GUARANTEE

- A. Guarantee joints will be properly filled and sealed with mortar and any leaks developing in any masonry work will be repaired by Contractor for a period of two years from date of Completion.

### 2.0 PRODUCTS

#### 2.01 CONCRETE MASONRY UNITS – GENERAL

- A. All interior concrete block shall be light weight units conforming to ASTM C 90, Type I. Provide units with minimum average net area compressive strength of 2000 psi.
- B. All load-bearing concrete block shall be normal weight units conforming to ASTM C 90, Type I. Provide units with minimum average net area compressive strength of 2000 psi.
- B. Size; standard 16” nominal face dimension except as otherwise indicated, thickness as shown on drawings.
- C. Provide special shapes where required:
  1. Bullnose at all exposed corners unless noted otherwise.

2. Grout blocks and bond beams as indicated on the drawings and at all anchors, unless noted otherwise.
- D. Moisture content of concrete block delivered to the site shall not exceed 10 lbs/cu.ft.

## 2.02 CONCRETE MASONRY UNITS

- A. Types: Standard units, and split-faced as manufactured by one of the following:
  1. Wellnitz Concrete Masonry Products
  2. Oberfield's, Inc.
  3. Clayton Concrete Block

## 2.03 GROUT MATERIALS

- A. Grout used for hollow metal frames shall be fine mortar grout conforming to Type S mortar specifications, job sanded Red Top Gypsum Plaster, Structo-Lite Gypsum Plaster or Sheetrock Brand Setting – Type Joint Compound (Durabond).

## 3.0 EXECUTION

### 3.01 MASONRY INSTALLATION

- A. Lay concrete block in common running bond (half bond) plumb, level, and true to dimension.
- B. Make exposed cuts with a masonry saw. Cut accurately around pipe, duct openings, and similar penetrations. Slush voids full. Neatly “build-in” items provided by other trades
- C. Lay concrete block with full face shell bed and head joints.
- D. All joints shall be of uniform 3/8 inch width.
  1. Tool exposed masonry walls slightly concave.
  2. Tool interior block walls which are not exposed or are scheduled to receive applied finish with flush joints.
- E. Store, handle and install masonry to avoid chips in exposed units. Remove and replace damaged masonry as directed by the Associate.
- F. Provide special units and set as required to form corners, returns, offsets, and closures. Maintain proper bond throughout the wall.
- G. Masonry units shall be delivered to the site dry and within the specified limitations for moisture content and shall be maintained in this condition, before laying in the structure, by storing them above ground and covering them for protection against weather. Unprotected units which have been wetted by rain within the preceding 7 days shall be considered too wet for use.

### 3.02 GENERAL MASONRY PRACTICE

- A. Stack masonry materials on wood dunnage and protect with tarpaulin or shed.
- B. Consult other trades in advance of the masonry work and make provision for the installation of their work to avoid later cutting and patching. Cut and patch masonry

as required to accommodate work of other trades.

- C. Lay masonry plumb, square, level and true to required lines, elevations and dimension, in bond, properly anchored with joints of uniform thickness.
- D. Unfinished work shall be racked back. Toothed masonry will not be permitted in new construction.
- E. Build solid masonry 4 inches above and below expansion bolts and built-in anchors.
- F. Install three courses of solid concrete masonry under beam and lintel bearings.
- G. As the work progresses, clean mortar daubs and smears from masonry work by wiping with burlap before mortar sets up. Turn back first scaffold plank adjacent to wall at end of each day's work to prevent unnecessary soiling.
- H. Where face of masonry is exposed as the finished wall, cut neatly around electrical boxes so faceplates for switches, receptacles, and other electrical devices will cover the cutout. Where necessary, point between cutout and electrical box with mortar.
- I. Point and fill holes and cracks in exposed joints using fresh mortar. If the mortar has hardened, defects shall be chiseled out, wetted, and refilled solidly with fresh mortar and tooled as specified.

### 3.05 CLEANING

- A. Keep wall surface clean during construction. Prevent smearing mortar on face of block. Remove mortar droppings when almost dry using a trowel. Remove burrs from tooled joints. Brush clean with fiber brush at end of each day's work and after finally pointing.
- B. Use care to avoid damage to adjacent surfaces when cleaning masonry. Any repairs required due to inadequate protection shall be charged to the Masonry Contractor.

END OF SECTION 04 22 00

## SECTION 04 23 00 GLASS UNIT MASONRY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes glass block set in mortar.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include glass block, cementitious materials, and accessories.
- B. Shop Drawings: Show fabrication and installation details for glass unit masonry, including vertical and horizontal coursing, anchors, reinforcement, and expansion strips.
- C. Samples for Initial Selection: Manufacturer's actual glass-block units and joint materials involving color selection.

#### 1.4 QUALITY ASSURANCE

- A. Source Limitations for Glass Block: Obtain glass block through one source from a single manufacturer.
- B. Source Limitations for Accessory Materials: Obtain each cementitious material through one source from a single manufacturer.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store glass block in unopened cartons on elevated platforms, under cover, and in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.
- B. Store glass-block grid materials in unopened cartons in an enclosed, dry location.
- C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- D. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

- E. Store accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

## 1.6 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation of glass unit masonry assemblies only when ambient and material temperatures are 40 deg F or higher.
  - 1. Maintain temperature in installation areas at 40 deg F or above for 48 hours after installing.

## PART 2 - PRODUCTS

### 2.1 GLASS BLOCK

- A. Hollow Glass Block: Hollow units made from transparent glass, with manufacturer's standard edge coating.
  - 1. Basis-of-Design Product: The design for hollow glass block is based on Pittsburgh Corning, Decora pattern. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:
  - 2. Glass Color: Colorless.
  - 3. Edge-Coating Color: As selected by Architect from manufacturer's full range.
    - a. Provide one color throughout for each pattern indicated.
  - 4. Unit Sizes: Manufacturer's standard sizes corresponding to nominal sizes indicated on Drawings.
  - 5. Corner Unit Sizes and Shapes: Manufacturer's standard units designed to form 90 degree corners when joined with straight units of same height.
  - 6. End-Block Unit Size: 7-3/4 inches square by 3-7/8 inches thick, actual size.
  - 7. Top Corner Unit Sizes and Shapes: End unit with top matching finished end and with rounded finished corner in manufacturer's standard size to match end units.
  - 8. Thick-Faced Units: 7-3/4 inches (197 mm)] square by 3-7/8 inches thick, actual size, with faces at least 3/4 inch thick.

### 2.2 MORTAR MATERIALS

- A. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207, Type S.
- B. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortar.
  - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Bayer Corporation, Industrial Chemicals Div.; Bayferrox Iron Oxide Pigments.
  - b. Davis Colors; True Tone Mortar Colors.
  - c. Solomon Grind-Chem Services, Inc.; SGS Mortar Colors.
- C. Colored Cement Product: Packaged blend made from portland cement and lime and mortar pigments, all complying with specified requirements, and containing no other ingredients.
- 1. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
  - 2. Pigments shall not exceed 10 percent of portland cement by weight.
  - 3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Colored Portland Cement-Lime Mix:
      - 1) Capital Materials Corporation; Riverton Portland Cement Lime Custom Color.
      - 2) Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
      - 3) Lafarge North America Inc.; Eaglebond.
      - 4) Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.
- D. Aggregate: ASTM C 144, with 100 percent passing No. 8 sieve.
- 1. For pointing mortar and joints narrower than 1/4 inch, use aggregate graded with 100 percent passing No. 16 sieve.
  - 2. White Aggregates: Natural white sand or crushed white stone.
  - 3. Colored Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

### 2.3 GLASS UNIT MASONRY ACCESSORIES

- A. Panel Reinforcement: Ladder-type units, butt welded, not lapped and welded; complying with ASTM A 951 in straight lengths of not less than 10 feet, and as follows:
- 1. Interior Walls: Hot-dip galvanized, carbon-steel wire.
  - 2. Wire Size: W1.7 or 0.148-inch diameter.
  - 3. Width: 2 inches.
  - 4. Spacing of Cross Rods: Not more than 16 inches apart.
- B. Fasteners, General: Unless otherwise indicated, provide Type 304 or Type 316 stainless-steel fasteners at exterior walls and zinc-plated fasteners with coating complying with ASTM B 633, Class Fe/Zn 5, at interior walls. Select fasteners for type, grade, and class required.
- C. Postinstalled Anchors: Provide powder-actuated fasteners of type and size necessary for installation indicated, as recommended by manufacturer, unless otherwise indicated.
- D. Asphalt Emulsion: Cold-applied asphalt emulsion complying with ASTM D 1187 or ASTM D 1227.

- E. Sealants: Manufacturer's standard chemically curing, elastomeric sealants of base polymer and characteristics indicated below that comply with applicable requirements in Division 07 Section "Joint Sealants."
  - 1. Single-component, nonsag urethane sealant.
- F. Sealant Accessories: Provide sealant accessories, including primers, bond-breaker tape, and cylindrical sealant backing, that comply with applicable requirements in Division 07 Section "Joint Sealants."

## 2.4 MORTAR MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, or antifreeze compounds, unless otherwise indicated.
  - 1. Do not use calcium chloride in mortar.
  - 2. Limit cementitious materials in mortar to portland cement and lime.
- B. Mortar for Glass Unit Masonry Assemblies: Comply with ASTM C 270, Proportion Specification for Type S mortar.
  - 1. Combine and thoroughly mix cementitious materials, water, and aggregates in a mechanical batch mixer, unless otherwise indicated. Mix mortar to produce a stiff but workable consistency that is drier than mortar for brick or concrete masonry. Discard mortar when it has reached initial set.
- C. Pigmented Mortar: Use colored cement product.
  - 1. Pigments shall not exceed 10 percent of portland cement by weight.
  - 2. Pigments shall not exceed 5 percent of masonry cement by weight.
  - 3. Mix to match Architect's sample.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine sills, jambs, and heads surrounding glass unit masonry assemblies for compliance with requirements for installation tolerances and other conditions affecting performance.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLING GLASS BLOCK WITH MORTAR

- A. Apply a heavy coat of asphalt emulsion to sill and adhere expansion strips to jambs and heads with asphalt emulsion. Allow asphalt emulsion to dry before placing mortar. Trim expansion strips to width required to fit glass block and to full lengths of heads and jambs.

- B. Set glass block with completely filled bed and head joints, with no furrowing, accurately spaced and coordinated with other construction. Maintain 1/4-inch exposed joint widths, unless otherwise indicated.
- C. Install panel reinforcement in horizontal joints at spacing indicated and continuously from end to end of panels; comply with the following requirements:
  - 1. Vertical Spacing of Panel Reinforcement for Interior Panels: Not more than 16 inches o.c.
  - 2. Do not bridge expansion joints with panel reinforcement.
  - 3. Place panel reinforcement in joints immediately above and below all openings within glass unit masonry assemblies.
  - 4. Lap panel reinforcement not less than 6 inches if more than 1 length is necessary.
  - 5. Embed panel reinforcement in mortar bed by placing lower half of mortar bed first, pressing panel reinforcement into place and covering with upper half of mortar bed.
- D. Install panel anchors at locations indicated and in same horizontal joints where panel reinforcement occurs. Extend panel anchors at least 12 inches into joints, and bend within expansion joints at edges of panels and across the head. Attach panel anchors as follows:
  - 1. For in-place unit masonry assemblies and concrete, attach panel anchors with 1/4-inch diameter bolt-size, postinstalled anchors, 2 per panel anchor.
  - 2. For new unit masonry assemblies, embed other ends of panel anchors, after bending portions crossing expansion joint, in horizontal mortar joints closest in elevation to joints in glass unit masonry assemblies containing panel anchors.
- E. Use rubber mallet to tap units into position. Do not use steel tools, and do not allow units to come into contact with metal accessories and frames.
- F. Use plastic spacers in mortar joints to produce uniform joint widths and to prevent mortar from being squeezed out of joints.
- G. Keep expansion joints free of mortar.
- H. Point joints with mortar by filling raked joints and voids. Place and compact pointing mortar in layers not more than 3/8 inch thick. Compact each layer thoroughly and allow to become thumbprint hard before applying next layer.
  - 1. Tool exposed joints slightly concave when pointing mortar is thumbprint hard. Use a smooth plastic jointer larger than joint width.
- I. Clean glass unit masonry assemblies as work progresses. Remove mortar fins and smears immediately, using a clean, wet sponge or a scrub brush with stiff fiber bristles. Do not use harsh cleaners, acids, abrasives, steel wool, or wire brushes when removing mortar or cleaning glass unit masonry assemblies.
- J. Install sealant at jambs, heads, mullions and other locations indicated. Prepare joints, including installation of primer and bond-breaker tape or cylindrical sealant backing, and apply elastomeric sealants to comply with requirements in Division 07 Section "Joint Sealants."
- K. Construction Tolerances: Set glass block to comply with the following tolerances:

1. Variation from Level: For bed joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet.
2. Variation in Mortar-Joint Thickness: Do not vary from joint thickness indicated by more than plus or minus 1/16 inch.

### 3.3 CLEANING

- A. On surfaces adjacent to glass unit masonry assemblies, remove mortar, sealants, and other residue resulting from glass-block installation, in a manner approved by manufacturers of materials involved.
- B. Remove excess sealants with commercial solvents of type recommended by sealant manufacturer. Exercise care not to damage sealant in joints.
- C. Perform final cleaning of glass unit masonry assemblies when surface is not exposed to direct sunlight. Start at top of panel using generous amounts of clean water. Remove water with clean, dry, soft cloths; change cloths frequently to eliminate dried mortar particles and aggregate.

END OF SECTION 04 23 00

## SECTION 05 50 00 METAL FABRICATIONS

### 1.0 GENERAL

#### 1.01 DESCRIPTION

A. This Section includes, but is not limited to, the following metal fabrications:

1. Miscellaneous steel lintels (refer to Details, various building sections, and structural drawings).

B. ALL STRUCTURAL STEEL IS TO BE DOMESTICALLY PRODUCED IN ACCORDANCE WITH OHIO REVISED CODE 153.011.

#### 1.02 SYSTEM PERFORMANCE REQUIREMENTS

A. Structural performance; design, engineer, fabricate, and install the following metal fabrications to withstand the following structural loads without exceeding the allowable design working stress of the materials involved, including anchors and connections. Apply each load to produce the maximum stress in each respective component of each metal fabrication.

#### 1.03 SUBMITTALS

- A. Submit product data for products used in miscellaneous metal fabrications.
- B. Submit shop drawings detailing fabrication and erection of each metal fabrication indicated.

#### 1.04 QUALITY ASSURANCE

- A. Fabricator qualifications; firm experience in successfully producing metal fabrications similar to that indicated for this project, with sufficient production capacity to produce required units without causing delay in the work.
- B. Installer qualifications; arrange for installation of metal fabrications specified in this section by same firm that fabricated them.

### 2.0 PRODUCTS

#### 2.01 MATERIALS

- A. Ferrous metals.
  1. Steel plates, shapes and bars; ASTM A 36.
  2. Welding rods and bare electrodes; select in accordance with AWS specifications for the metal alloy to be welded.
- B. Non-shrink nonmetallic grout; CE CRD-C621 premixed, factory-packaged, non-

staining, non-corrosive, non-gaseous grout. Provide grout specifically recommended by manufacturer for interior applications of type specified in this section.

1. Subject to compliance with requirements, provide one of the following:
  - a. "Euco N-S Grout"; Euclid Chemical Co.
  - b. "Masterflow 713"; Master Builders.
  - c. "SonogROUT"; Sonneborn Building Products Div., Rexnord Chemical Products, Inc.

C. Paint:

1. Shop primer for ferrous metal; FS TT-P-645 manufacturer's or fabricator's standard, fast-curing, lead-free, universal modified alkyd primer selected for good resistance to normal atmospheric corrosion, for compatibility with finish paint systems indicated, and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.

## 2.02 FABRICATION

- A. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.
- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.
- C. Ease exposed edges to a radius of approximately 1/32" unless otherwise indicated.

## 2.03 LOOSE STEEL LINTELS

- A. Fabricate loose structural steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated.
  1. Weld adjoining members together to form a single unit where indicated.
  2. Size loose lintels for equal bearing of 6" at each side of openings, unless otherwise indicated.

## 2.05 FINISHES

- A. Steel and iron finishes:
  1. Preparation for shop priming:
    - a. Interiors (SSPC Zone 1A): SSPC-SP3 "Power Tool Cleaning".

## 3.0 EXECUTION

### 3.01 INSTALLATION

- A. Perform cutting and fitting required for installation of miscellaneous metal

fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true and free of rack; and measured from established lines and levels.

- B. Provide temporary bracing or anchors in formwork for items built into masonry or similar construction.

### 3.05 ADJUSTING AND CLEANING

- A. Immediately after erection, clean abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 requirements for touch-up of field painted surfaces.

END OF SECTION 05 50 00

## SECTION 06 10 00 ROUGH CARPENTRY

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. This Section includes rough carpentry work for miscellaneous framing, forms and rough carpentry.
  - 1. Layout of work; location of references, dimensions, setting grounds, blocking, and similar work.
  - 2. Blocking at all locations, to be anchored to walls and ceilings.
  - 3. Miscellaneous blocking, framing and closures where required, including blocking behind millwork anchored to wall.
  - 5. Plywood at various locations.
  - 6. Rough hardware.
  - 7. Coordinate, properly locate, and install anchorage system for accessories, and other wall mounted equipment within metal stud and drywall partitions.
  - 8. Anchoring devices and rough hardware as required.

#### 1.02 SUBMITTALS

- A. Submit wood treatment data as follows including chemical treatment manufacturer's instructions for handling, storing, installation, and finishing of treated material:
  - 1. For each type of preservative treated wood product include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained and compliance with applicable standards.
  - 2. For water-borne treated products include statement that moisture content of treated materials was reduced to levels indicated before shipment to project site.
  - 3. For fire-retardant treated wood products include certification by treating plant that treated material complies with specified standard and other requirements.

#### 1.03 QUALITY ASSURANCE

- A. Single-Source Responsibility for Fire-Retardant Treated Wood: Obtain each type of fire-retardant treated wood products from one source for both treatment and fire-retardant formulation.
- B. Plywood: Provide plywood manufactured and factory grademarked in accordance with PS-1.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.

1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

## 2.0 PRODUCTS

### 2.01 LUMBER, GENERAL

- A. UNLESS NOTED OTHERWISE, ALL WOOD PROVIDED UNDER THIS SECTION SHALL BE FIRE-RETARDANT TREATED WOOD.
- B. Lumber standards; furnish lumber manufactured to comply with PS 20 “American Softwood Lumber Standard” and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee’s (ALSC) Board of Review.
- C. Grade stamps; provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
- D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
  1. Provide dressed lumber, S4S, unless otherwise indicated.
  2. Provide lumber with 15 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

### 2.02 MISCELLANEOUS LUMBER

- A. General; kiln dried lumber for support or attachment of other construction including copings, bucks, kickers, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.
- C. Moisture content; 15 percent maximum for lumber items not specified to received wood preservative treatment.
- D. Plywood; APA-CC PLUGGED-EXT or APA-RATED SHEATHING EXT, thickness indicated. Provide span ratings required to suit framing spacing, square edge.
- E. Pegboard; 4 x 8 x 1/4” white PVC.

### 2.03 FASTENERS

- A. General; size and type indicated that comply with requirements specified in this article for material and manufacture.
- B. Nails, wire brads, and staples; FS FF-N-105.
- C. Power driven fasteners; National Evaluation Report NER-272.
- D. Wood screws; ANSI B18.6.1.
- E. Lag bolts; ANSI B18.2.1.

- F. Bolts; steel bolts complying with ASTM A307, Grade A; with ASTM A563 hex nuts and where indicated, flat washers.

#### 2.04 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

- A. General; where lumber or plywood is indicated as preservative-treated wood or is specified to be treated, comply with applicable requirements of AWPA Standards C2 (Lumber) and C9 (Plywood). Mark each treated item with the applicable inspection agency's Quality Mark Requirements.
- B. Pressure-treat above-ground items with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, after treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:
  - 1. Nailers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
- C. Pressure-treat wood members in contact with the ground or fresh water with water-borne preservatives to a minimum retention of 0.40 pcf.
- D. Complete fabrication of treated items before treatment, where possible. If cut after treatment, coat cut surfaces to comply with AWPA M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

#### 2.05 FIRE-RETARDANT TREATMENT BY PRESSURE PROCESS

- A. General; where fire-retardant treated wood is indicated, pressure impregnate lumber and plywood with fire-retardant chemicals to comply with AWPA C20 (Lumber) and C27 (Plywood), respectively, for treatment type indicated; identify "fire-retardant treated wood" with appropriate classification marking of Underwriters Laboratories, Inc., U.S. Testing, Timber Products Inspection, Inc. or other testing and inspecting agency acceptable to authorities having jurisdiction.
- B. Interior type; for interior locations use fire-retardant chemical formulation that produces treated lumber and plywood with the following properties under conditions present after installation:
  - 1. No reduction takes place in bending strength, stiffness, and fastener holding capacities below values published by manufacturer of chemical formulation that are based on tests by a qualified independent testing laboratory of treated wood products identical to those indicated for this Project under elevated temperature and humidity conditions simulating installed conditions.
  - 2. No other form of degradation occurs due to acid hydrolysis or other causes related to manufacture and treatment.
  - 3. No corrosion of metal fasteners results from their contact with treated wood.
- C. Inspect each piece of treated lumber or plywood after drying and discard damaged or defective pieces.
- D. Products; subject to compliance with requirements, provide one of the following:
  - 1. Interior Type Fire-Retardant Treated Wood:
    - a) "Dricon," Arch Wood Protection

- b) "Pyro-Guard," Hoover Treated Wood Products.
- c) "Firepro," Osmose Wood Preserving Co., Inc.

### 3.0 EXECUTION

#### 3.01 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of rough carpentry construction and that are too small to use in fabricating rough carpentry with minimum joints or optimum joint arrangement.
- B. Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other construction.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.
- E. Countersink nail heads on exposed carpentry work and fill holes.
- F. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finished materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.

#### 3.02 WOOD GROUNDS, NAILERS AND BLOCKING

- A. Install wood grounds, nailers, and blocking where shown and where required for attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
- B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to form work before concrete placement.

END OF SECTION 06 10 00

## SECTION 06 20 00 FINISH CARPENTRY

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Finish carpentry is defined to include miscellaneous exposed wood members commonly known as architectural woodwork, unless such items are specified under another section of these Specifications.
- B. The types of finish carpentry include, but are not necessarily limited to the following paragraphs:
  - 1. Items installed by this section, but provided by other Sections:
    - a. Steel security doors furnished in Section 08 34 53 – Security Doors and Frames.
    - b. Access Doors furnished in Section 08 31 00 – Access Doors
    - c. Door hardware furnished in Section 08 71 00 – Door Hardware.
    - d. Casework in Section 12 30 00 - Casework

#### 1.02 RELATED WORK

- A. Documents affecting this work shall include, but are not limited to Bidding Requirements, General and Supplemental Conditions, and Division 1.
- B. Section 06 10 00 - Rough Carpentry
- C. *Section 09 90 00 – Painting and Coating*

#### 1.03 QUALITY ASSURANCE

- A. Quality standards: Except as otherwise shown or specified, comply with specified provisions of the Architectural Woodwork Institute (AWI) “Quality Standards”.
- B. Optimum moisture content: Kiln-dry woodwork to an average moisture content within the following ranges or as otherwise recommended by applicable Quality Standards for the regional climatic conditions involved.
  - 2. Interior woodwork – 5 to 10 percent.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soiling, and deterioration.
- B. Wood to be painted shall be sealed upon delivery to the site.

#### 1.05 PROJECT CONDITIONS

- A. Examination of Substrate and Conditions: The installer must examine the substrate and the conditions under which the Work under this Section is to be performed and notify the Contractor in writing of any unsatisfactory conditions. Do not proceed with work under this section until unsatisfactory conditions have

been corrected.

## 2.0 PRODUCTS

### 2.01 INTERIOR MATERIALS

#### A. General: Provide materials that comply with requirements of the AWI

Woodworking Standard for each type of woodwork and quality grade indicate and, where the following products are part of woodwork, with requirements of the referenced product standards, that apply to product characteristics indicated:

1. Hardboard: ANSI/AHA A135.4
2. High Pressure Laminate: NEMA LD3.
3. Medium Density Fiberboard: ANSI A208.2, made with binder containing no urea formaldehyde.
4. Particleboard: ANSI A208.1, Grade M-2 – exterior glue.
5. Straw-based particleboard: ANSI A208.1, Grade M-2, except for density.
6. Softwood Plywood: PS 1.
7. Hardwood Plywood and Face Veneers: HPVA HP-1, made with adhesive containing no urea formaldehyde.
8. Formaldehyde Emission Levels: Comply with formaldehyde emission requirements of each voluntary standard referenced below:
  - a. Particleboard: NPA 8.
  - b. Medium Density Fiberboard: NPA 9.
  - c. Hardwood Plywood: HPMA FE.

### 2.02 FASTENERS AND ANCHORS

#### A. Fasteners for Exterior Finish Carpentry: Provide nails or screws of the following materials, in sufficient length to penetrate minimum of 1-1/2” into substrate, unless otherwise recommended by manufacturer:

1. Hot-dip galvanized steel.

#### B. Screws: Select material, type, size, and finish required for each use. Comply with FS FF-S-111 for applicable requirements.

1. For metal framing supports, provide screws as recommended by metal framing manufacturer.

#### C. Anchors: Select material, type, size, and finish required by each substrate for secure anchorage. Provide nonferrous metal or hot dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion bolt devices for drilled-in place anchors. Furnish inserts and anchors, as required, to be set into concrete or masonry work for subsequent woodwork anchorage.

### 2.03 FABRICATION

- A. Wood Moisture Content: Comply with requirements of specified inspection agencies and with manufacturer's written recommendations for moisture content of finish carpentry at relative humidity conditions existing during time of fabrication and in installation areas.
- B. Back out or kerf backs of the following members, except members with ends exposed in finished work:
  - 1. trim wider than 5".

### 3.0 EXECUTION

#### 3.01 PREPARATION

- A. Condition finish carpentry to average prevailing humidity conditions in installation areas prior to installing.
- B. Before installing finished carpentry, examine shop fabricated work for completion and complete work as required, including back priming and removal of packing.

#### 3.02 STEEL DOOR INSTALLATION

- A. Delivery, Storage and Handling:
  - 1. Deliver doors and frames cardboard-wrapped or crated to provide protection during transit and job storage. Provide additional protection to prevent damage to finish of factory-finished doors and frames.
  - 2. Observe doors and frames upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable. Otherwise, remove and replace damaged items as directed.
  - 3. Store doors and frames at building site under cover. Place units on minimum 4" high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide ¼" spaces between stacked doors to promote air circulation.
- B. Installation: Install standard steel doors, and accessories in accordance with final shop drawings, manufacturer's data, and as herein specified.
- C. Door Installation: Fit hollow metal doors accurately in frames, within clearances specified in ANSI/SDI-100.

#### 3.03 DOOR HARDWARE INSTALLATION

- A. Install each hardware item in compliance with the manufacturer's instructions and recommendations.
- B. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation. Where closers are specified, they shall be the last hardware item to be installed. Closers shall be mounted to wood and steel doors with sex bolts and machine screws.
- C. Drill and countersink units which are not factory prepared for anchorage

- fasteners. Space fasteners and anchors in accordance with industry standards.
- D. Cut and fit threshold and floor covers to profile of door frames with mitered corners and hairline joints. Join units with concealed welds or concealed mechanical joints. Cut smooth openings for spindles, bolts, and similar items.
  - E. Anchor thresholds to substrate with stainless steel machine screws.
  - F. At exterior doors and elsewhere as indicated, set thresholds in a bed of either butyl rubber sealant or polyisobutylene mastic sealant to completely fill concealed voids and exclude moisture from every source. Do not plug drainage holes or block weeps. Remove excess sealants.
  - G. Where necessary, provide metal hinge shims to maintain clearances at interior and exterior doors.

#### 3.04 ADJUSTMENT AND CLEANING OF DOOR HARDWARE

- A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.
- B. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy and make final check and adjustment of hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- C. Instruct Owner's personnel in proper adjustment and maintenance of hardware and hardware finishes during the final adjustment of hardware.

END OF SECTION 06 20 00

## SECTION 07 84 00 FIRESTOPPING

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

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

#### 1.02 DEFINITIONS

- A. Firestopping: Material or combination of materials used to retain integrity of fire-rated construction by maintaining an effective barrier against the spread of flame, smoke and hot gases through penetrations in, or construction joints between, fire rated wall and floor assemblies.

#### 1.03 GENERAL DESCRIPTION OF THE WORK OF THIS SECTION

Only tested firestop systems shall be used in specific locations as follows:

- A. Penetrations for the passage of duct, cable, cable tray, conduit, piping, electrical busways and raceways through fire-rated vertical barriers (walls and partitions), horizontal barriers (floor/ceiling assemblies), and vertical service shaft walls and partitions.

#### 1.04 REFERENCES

- A. Test Requirements: ASTM E 814, "Standard Method of Fire Tests of Through Penetration Fire Stops"
- B. Test Requirements: UL 1479, "Fire Tests of Through-Penetration Firestops"
- C. Test Requirements: UL 2079, "Tests for Fire Resistance of Building Joint Systems"
- D. Underwriters Laboratories (UL) of Northbrook, IL publishes tested systems in their "FIRE RESISTANCE DIRECTORY" that is updated annually.
  - 1. UL Fire Resistance Directory:
    - a. Firestop Devices (XHJI)
    - b. Fire Resistance Ratings (BXRH)
    - c. Through-Penetration Firestop Systems (XHEZ)
    - d. Fill, Voids, or Cavity Material (XHHW)
    - e. Forming Materials (XHKU)
    - f. Joint Systems (XHBN)
    - g. Perimeter Fire Containment Systems (XHDG)
  - 2. Alternate Systems: "Omega Point Laboratories Directory" (updated annually).

- E. Test Requirements: ASTM E 1966, “Standard Test Method for Fire Resistive Joint Systems”
- F. Test Requirements: ASTM E 2307, “Standard Test Method for Determining Fire Resistance of Perimeter Fire Barrier Systems Using Intermediate-Scale, Multi-story Test Apparatus”
- G. Inspection Requirements: ASTM E 2174, “Standard Practice for On-site Inspection of Installed Fire Stops”
- H. ASTM E 84, “Standard Test Method for Surface Burning Characteristics of Building Materials”
- I. ASTM D6904, “Standard Practice for Resistance to Wind Driven Rain for Exterior Coatings Applied on Masonry”
- J. ASTM C 679, “Standard Test Method for Tack-Free Time of Elastomeric Sealants”
- K. International Firestop Council Guidelines for Evaluating Firestop Systems Engineering Judgments
- L. International Building Code (IBC 2012)
- M. NFPA 101 - Life Safety Code
- N. NFPA 70 - National Electric Code

#### 1.05 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide through-penetration fire stop systems and fire-resistive joint systems that comply with specified requirements of tested systems.
- B. Firestop System installation must meet requirements of ASTM E 814, UL 1479 or UL 2079 tested assemblies that provide a fire rating equal to that of construction being penetrated.
- C. Proposed fire stop materials and methods shall conform to applicable governing codes having local jurisdiction.
- D. Firestop Systems do not reestablish the structural integrity of load bearing partitions/assemblies, or support live loads and traffic. Installer shall consult the structural engineer prior to penetrating any load bearing assembly.
- E. For those firestop applications that exist for which no qualified tested system is available through a manufacturer, an engineering judgment derived from similar qualified tested system designs or other tests will be submitted to local authorities having jurisdiction for their review and approval prior to installation. Engineering judgment documents must follow requirements set forth by the International Firestop Council.

## 1.06 SUBMITTALS

- A. Submit Product Data: Manufacturer's specifications and technical data for each material including the composition and limitations, documentation of qualified tested firestop systems to be used and manufacturer's installation instructions to comply with Section 01 30 00.
- B. Manufacturer's engineering judgment identification number and document details when no qualified tested system is available for an application. Engineering judgment must include both project name and contractor's name who will install firestop system as described in document.
- C. Submit safety data sheets provided with product delivered to job-site.

## 1.07 INSTALLER QUALIFICATIONS

- A. Engage an experienced Installer who is certified, licensed, or otherwise qualified by the firestopping manufacturer as having been provided the necessary training to install manufacturer's products per specified requirements. A supplier's willingness to sell its firestopping products to the Contractor or to an Installer engaged by the Contractor does not in itself confer qualification on the buyer.
- B. Installation Responsibility: assign installation of through-penetration firestop systems and fire-resistive joint systems in Project to a single sole source firestop specialty contractor.
- C. The work is to be installed by a contractor with at least one of the following qualifications:
  - FM 4991 Approved Contractor
  - UL Approved Contractor
  - Hilti Accredited Fire Stop Specialty Contractor
- D. The installer must have no less than 3 years of experience with fire stop installation.

## 1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials undamaged in manufacturer's clearly labeled, unopened containers, identified with brand, type, and UL label where applicable.
- B. Coordinate delivery of materials with scheduled installation date to allow minimum storage time at job-site.
- C. Store materials under cover and protect from weather and damage in compliance with manufacturer's requirements, including temperature restrictions.

- D. Comply with recommended procedures, precautions or remedies described in material safety data sheets as applicable.
- E. Do not use damaged or expired materials.

#### 1.09 PROJECT CONDITIONS

- A. Do not use materials that contain flammable solvents.
- B. Schedule installation of firestopping after completion of penetrating item installation but prior to covering or concealing of openings.
- C. Verify existing conditions and substrates before starting work. Correct unsatisfactory conditions before proceeding.
- D. Weather conditions: Do not proceed with installation of firestop materials when temperatures exceed the manufacturer's recommended limitations for installation printed on product label and product data sheet.
- E. During installation, provide masking and drop cloths to prevent firestopping materials from contaminating any adjacent surfaces.

### PART 2 – PRODUCTS

#### 2.01 PERFORMANCE REQUIREMENTS

- A. Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by the firestopping manufacturer based on testing and field experience.
- B. Provide components for each firestopping system that are needed to install fill material. Use only components specified by the firestopping manufacturer and approved by the qualified testing agency for the designated fire-resistance-rated systems.
- C. Provide a round fire-rated cable management device whenever cables penetrate fire rated walls, where frequent cable changes and additions may occur. The fire-rated cable management device shall consist of a corrugated steel tube with zinc coating, contain and inner plastic housing, intumescent material rings, and inner fabric smoke seal membrane. The length of the sleeve shall be 12.4 inches. The fire-rated cable management device shall contain integrated intumescent firestop wrap strip materials sufficient to maintain the hourly rating of the barrier being penetrated. The fire-rated cable management device shall contain a smoke seal fabric membrane or intumescent firestop plugs sufficient to achieve the L-Rating requirements of the barrier type. Install device per the manufacturer's published installation instructions.
- D. Penetrations in Fire Resistance Rated Walls: Provide firestopping with ratings determined in accordance with UL 1479 or ASTM E 814.

1. F-Rating: Not less than the fire-resistance rating of the wall construction being penetrated.
- E. Penetrations in Horizontal Assemblies: Provide firestopping with ratings determined in accordance with UL 1479 or ASTM E 814.
1. F-Rating: Minimum of 1-hour rating, but not less than the fire-resistance rating of the floor construction being penetrated.
  2. T-Rating: when penetrant is located outside of a wall cavity, minimum of 1-hour rating, but not less than the fire-resistance rating of the floor construction being penetrated.
  3. W-Rating: Class 1 rating in accordance with water leakage test per UL 1479.
- F. Penetrations in Smoke Barriers: Provide firestopping with ratings determined in accordance with UL 1479 or ASTM E 814.
1. L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at both ambient and elevated temperatures.
- G. Mold Resistance: Provide penetration firestopping with mold and mildew resistance rating of one (1) or less as tested per ASTM G21.
- H. Rain and water resistance: provide perimeter joint sealant tested in accordance with ASTM D 6904 with less than 1 hour tack free time as tested in accordance with ASTM C 679.
- I. Firestopping Materials are either “cast-in-place” (integral with concrete placement) or “post installed.” Provide cast-in-place firestop devices prior to concrete placement.

## 2.02 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with through penetration firestop systems (XHEZ), joint systems (XHBN), and perimeter firestop systems (XH DG) listed in Volume 2 of the UL Fire Resistance Directory; provide products of the following manufacturers as identified below:
1. Basis of Design:  
Hilti, Inc., Plano, Texas  
800-879-8000  
www.us.hilti.com
  2. Substitution requests shall be considered in accordance with contract provisions.

## 2.03 MATERIALS

- A. Use only firestop products that have been UL 1479, ASTM E 814 or UL 2079 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.

- B. Pre-installed firestop devices for use with noncombustible and combustible pipes (closed and open systems), conduit, and/or cable bundles penetrating concrete floors and/or gypsum walls, the following products are acceptable:
1. Hilti Cast-In Place Firestop Device (CP 680-P)
    - a. Add Aerator Adaptor when used in conjunction with aerator system.
  2. Hilti Tub Box Kit (CP 681) for use with tub installations.
  3. Hilti Cast-In Place Firestop Device (CP 680-M) for use with noncombustible penetrants.
  4. Hilti Firestop Speed Sleeve (CP 653) for use with cable penetrations.
  5. Hilti Firestop Drop-In Device (CFS-DID) for use with noncombustible and combustible penetrants.
  6. Hilti Firestop Block (CFS-BL)
- C. Sealants, caulking materials, or foams for use with non-combustible items including steel pipe, copper pipe, rigid steel conduit and electrical metallic tubing (EMT), the following products are acceptable:
1. Hilti Intumescent Firestop Sealant (FS-ONE MAX)
  2. Hilti Fire Foam (CP 620)
  3. Hilti Flexible Firestop Sealant (CP 606)
  4. Hilti Firestop Silicone Sealant Gun Grade (CFS-S SIL GG)
  5. Hilti Firestop Silicone Sealant Self Leveling (CFS-S SIL SL)
- D. Sealants or caulking materials for use with sheet metal ducts, the following products are acceptable:
1. Hilti Silicone Sealant Gun Grade (CFS-S SIL GG)
  2. Hilti Firestop Silicone Sealant Self Leveling (CFS-S SIL SL)
  3. Hilti Flexible Firestop Sealant (CP 606)
  4. Hilti Intumescent Firestop Sealant (FS-ONE MAX)
- E. Sealants, sprays, or pre-formed materials for use with fire-rated construction joints and other gaps, the following products are acceptable:
1. Hilti Firestop Top Track Seal (CFS-TTS)
  2. Hilti Firestop Joint Spray (CFS-SP WB)
  3. Hilti Firestop Silicone Joint Spray (CFS-SP SIL)
  4. Hilti Flexible Firestop Sealant (CP 606)
  5. Hilti Firestop Silicone Sealant Gun Grade (CFS-S SIL GG)
  6. Hilti Firestop Silicone Sealant Self Leveling (CFS-S SIL SL)
  7. Hilti bottom of wall sealant CP 605
- F. Pre-formed mineral wool designed to fit flutes of metal profile deck and gap between top of wall and metal profile deck; as a backer for spray material.
1. Hilti Speed Plugs (CP 777)
  2. Hilti Speed Strips (CP 767)

- G. Intumescent sealants, caulking materials for use with combustible items (penetrants consumed by high heat and flame) including insulated metal pipe, PVC jacketed, flexible cable or cable bundles and plastic pipe, the following products are acceptable:
1. Hilti Intumescent Firestop Sealant (FS-ONE MAX)
- H. Foams, intumescent sealants, or caulking materials for use with flexible cable or cable bundles, the following products are acceptable:
1. Hilti Intumescent Firestop Sealant (FS-ONE MAX)
  2. Hilti Fire Foam (CP 620)
  3. Hilti Flexible Firestop Sealant (CP 606)
  4. Hilti Firestop Silicone Sealant Gun Grade (CFS-S SIL GG)
  5. Hilti Firestop Silicone Sealant Self Leveling (CFS-S SIL SL)
- I. Non-curing, re-penetrable intumescent putty or foam materials for use with flexible cable or cable bundles, the following products are acceptable:
1. Hilti Firestop Putty Stick (CP 618)
  2. Hilti Firestop Plug (CFS-PL)
- J. Wall opening protective materials for use with U.L. listed metallic and specified nonmetallic outlet boxes, the following products are acceptable:
1. Hilti Firestop Putty Pad (CFS-P PA)
  2. Hilti Firestop Putty Pad (CP 617)
  3. Hilti Firestop Box Insert
- K. Firestop collar or wrap devices attached to assembly around combustible plastic pipe (closed and open piping systems), the following products are acceptable:
1. Hilti Firestop Collar (CP 643N)
  2. Hilti Firestop Collar (CP 644)
  3. Hilti Wrap Strips (CP 648E/648S)
- L. Materials used for large openings and complex penetrations made to accommodate cable trays and bundles, multiple steel and copper pipes, electrical busways in raceways, the following products are acceptable:
1. Hilti Firestop Mortar (CP 637)
  2. Hilti Firestop Block (CFS-BL)
  3. Hilti Fire Foam (CP 620)
  4. Hilti Firestop Board (CP 675T)
- M. Non curing, re-penetrable materials used for large size/complex penetrations made to accommodate cable trays and bundles, multiple steel and copper pipes, electrical busways in raceways, the following products are acceptable:
1. Hilti Firestop Block (CFS-BL)
  2. Hilti Firestop Board (CP 675T)

- N. Re-penetrable, round cable management devices for use with new or existing cable bundles penetrating gypsum or masonry walls, the following products are acceptable:
1. Hilti Firestop Speed Sleeve (CP 653) with integrated smoke seal fabric membrane.
  2. Hilti Firestop Cable Collar (CFS-CC)
  3. Hilti Firestop Sleeve (CFS-SL SK)
  4. Hilti Retrofit Sleeve (CFS-SL RK) for use with existing cable bundles.
  5. Hilti Gangplate (CFS-SL GP) for use with multiple cable management devices.
  6. Hilti Gangplate Cap (CFS-SL GP CAP) for use at blank openings in gangplate for future penetrations.
- O. Sealants or caulking materials used for openings between structurally separate sections of wall and floors, the following products are acceptable:
1. Hilti Firestop Joint Spray (CFS-SP WB)
  2. Hilti Flexible Firestop Sealant (CP 606)
  3. Hilti Firestop Silicone Sealant Gun Grade (CFS-S SIL GG)
  4. Hilti Firestop Silicone Sealant Self Leveling (CFS-S SIL SL)
- P. For blank openings made in fire-rated wall or floor assemblies, where future penetration of pipes, conduits, or cables is expected, the following products are acceptable:
1. Hilti CFS-BL Firestop Block
  2. Hilti CFS-PL Firestop Plug
- Q. For single or cable bundles up to one inch diameter penetrating gypsum, masonry, concrete walls or wood floor assemblies the following product is acceptable:
1. Hilti CFS-D Firestop Cable Disc

## PART 3 - EXECUTION

### 3.01 PREPARATION

- A. Verification of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion.
1. Verify penetrations are properly sized and in suitable condition for application of materials.
  2. Surfaces to which firestop materials will be applied shall be free of dirt, grease, oil, rust, laitance, release agents, water repellents, and any other substances that may affect proper adhesion.
  3. Provide masking and temporary covering to prevent soiling of adjacent surfaces by firestopping materials.
  4. Comply with manufacturer's recommendations for temperature and humidity conditions before, during and after installation of firestopping.
  5. Do not proceed until unsatisfactory conditions have been corrected.

### 3.02 COORDINATION

- A. Coordinate construction of openings, penetrations and construction joints to ensure that the fire stop systems are installed according to specified requirements.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate through-penetration fire stop systems. Coordinate construction and sizing of joints to ensure that fire-resistive joint systems are installed according to specified requirements.
- C. Coordinate fire stopping with other trades so that obstructions are not placed in the way prior to the installation of the fire stop systems.
- D. Do not cover up through-penetration fire stop and joint system installations that will become concealed behind other construction until each installation has been examined by the building inspector.

### 3.03 INSTALLATION

- A. Regulatory Requirements: Install firestop materials in accordance with UL Fire Resistance Directory or Omega Point Laboratories Directory.
- B. Manufacturer's Instructions: Comply with manufacturer's instructions for installation of through-penetration and construction joint materials.
  - 1. Seal all holes or voids made by penetrations to ensure an air and water resistant seal.
  - 2. Consult with mechanical engineer, project manager, and damper manufacturer prior to installation of UL firestop systems that might hamper the performance of fire dampers as it pertains to duct work.
  - 3. Protect materials from damage on surfaces subjected to traffic.

### 3.04 FIELD QUALITY CONTROL

- A. Examine sealed penetration areas to ensure proper installation before concealing or enclosing areas.
- B. Keep areas of work accessible until inspection by applicable code authorities.
- C. Inspection of through-penetration firestopping shall be performed in accordance with ASTM E 2174, "Standard Practice for On-Site Inspection of Installed Fire Stops" or other recognized standard.
- D. Perform under this section patching and repairing of firestopping caused by cutting or penetrating of existing firestop systems already installed by other trades.
- E. Manufacturer's Field Services: During Installation, provide periodic destructive testing inspections to assure proper installation/application. After installation is complete, submit findings in writing indicating whether or not the installation of the tested system identified was installed correctly.

### 3.05 IDENTIFICATION & DOCUMENTATION

A. The firestop contractor is to supply documentation for each single application addressed. This documentation is to identify each penetration and joint location on the entire project.

A.1 The Documentation Form for through penetrations is to include:

1. A Sequential Location Number
2. The Project Name
3. Date of Installation
4. Detailed description of the penetrations location
5. Tested System or Engineered Judgment Number
6. Type of assembly penetrated
7. A detailed description of the size and type of penetrating item
8. Size of opening
9. Number of sides of assemblies addressed
10. Hourly rating to be achieved
11. Installers Name

A.2 The Documentation Form for Construction Joints is to include:

1. A Sequential Location Number
2. The Project Name
3. Date of Installation
4. Detailed description of the Construction Joints location
5. Tested System or Engineered Judgment Number
6. Type of Construction Joint
7. The Width of the Joint
8. The Lineal Footage of the Joint
9. Number of sides addressed
10. Hourly rating to be achieved
11. Installers Name

B. Copies of these documents are to be provided to the general contractor at the completion of the project.

C. Identify through-penetration firestop systems with pressure-sensitive, self-adhesive, preprinted vinyl labels. Attach labels permanently to surfaces of penetrated construction on both sides of each firestop system installation where labels will be visible to anyone seeking to remove penetrating items or firestop systems. Include the following information on labels:

1. The words: "Warning -Through Penetration Firestop System-Do Not Disturb. Notify Building Management of Any Damage."
2. Contractor's Name, address, and phone number.
3. Through-Penetration firestop system designation of applicable testing and inspecting agency.
4. Date of Installation.
5. Through-Penetration firestop system manufacturer's name.

6. Installer's Name.

D. A firestop documentation manager software shall be used to document, track, and maintain the passive firestop systems throughout the construction and maintenance phase of the facility. The software solution shall be used to track and document every firestop system installed on the project and each subsequent addition, change, or removal of the firestop system. The firestop documentation shall be managed with a cloud-based software which allows the installer to use a standard smartphone or tablet device (either iOS, Android or Windows capable) to capture the relevant information for the installation. The following data shall be tracked for each penetration within the facility: product installed, system installed, date of installation, location of the penetration including a notation on the 2D plan image, F-rating, name of installer, photo (pre-installation and post-installation), and inspection status. The Owner and/ or Construction Manager may designate additional items to be tracked. The firestop documentation manager software must perform the following basic functions:

1. Create multiple projects/ facilities, add/create/ remove users for each project, upload documents including UL systems, 2D floor plans, product data, engineering judgments, etc.
2. Define data to track using pre-defined input fields or creating custom input fields as desired.
3. Capture multiple photos for each penetration, including a pre-installation and post-installation photo.
4. Scan QR Code on Hilti identification label to link the program data to a specific penetration location.
5. Annotate (mark) location of penetration on 2D floor plan.
6. Create reports by filtering data and utilizing report templates.
7. Online/ offline (for use in areas where data service is unavailable) synchronization of data between mobile device, online application and cloud-based system.
8. Ability to transfer ownership of projects from one customer to another from construction phase to facility maintenance.

Permanently attach Hilti identification labels to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyone seeking to remove or change penetrating items or firestopping. Labels shall have a unique QR code for each penetration which can be scanned by the firestop documentation software to quickly identify the penetration attributes.

Acceptable Software: Hilti CFS-DM, from Hilti Inc., Plano, TX. Tel (800) 879-8000 or Hilti (Canada) Corporation, Mississauga, Ontario (800) 363-4458 website: [www.us.hilti.com](http://www.us.hilti.com) or [www.hilti.ca.com](http://www.hilti.ca.com)

1. Substitutions: Not permitted.
2. Single Source: Obtain firestop documentation manager software and firestop systems for each type of penetration and construction condition indicated only from a single manufacturer.

3.06 ADJUSTING AND CLEANING

- A. Remove equipment, materials and debris, leaving area in undamaged, clean condition.
- B. Clean all surfaces adjacent to sealed holes and joints to be free of excess firestop materials and soiling as work progresses.

3.07 LABOR USE TO INSTALL FIRESTOP SYSTEMS

- A. If firestopping is not assigned to a single-source firestop specialty contractor, the installation of each scope of work is to be performed jurisdictionally correct per existing trade agreements.

.08 SCHEDULE OF COMMON FIRESTOP SYSTEMS

Schedule of joint firestop systems. Basis of design: Hilti, Inc.

Joint Type	F-Rating (Hr)	Hilti Basis of Design UL System	
		Joint Width Less than or Equal to 2"	Joint Width Greater than 2" Less than or Equal to 6" <sup>4</sup>
Concrete (Floor to Floor)	1	FF-D-1012, FF-D-1013 <sup>1</sup>	FF-D-1012, FF-D-1013
	2	FF-D-1012, FF-D-1013 <sup>1</sup>	FF-D-1012, FF-D-1013
	3	FF-D-1011, FF-D-1026 <sup>1</sup>	FF-D-1011, FF-D-1026
	4	FF-D-1047	FF-D-1125
Concrete (Edge of Floor Slab to Wall)	1	FW-D-1011, FW-D-1012, FW-D-1013	FW-D-1011, FW-D-1012, FW-D-1013, FW-D-1021
	2	FW-D-1011, FW-D-1012, FW-D-1013	FW-D-1011, FW-D-1012, FW-D-1013, FW-D-1021
	3	FW-D-1011	FW-D-1011, FW-D-1021
	4	FW-D-1047	FW-D-1092
Concrete or Block Wall to Flat Concrete Floor (Top-of-Wall)	1	N/A**	N/A**
	2	HW-D-0097 <sup>1</sup>	HW-D-1009
	3	HW-D-1008 <sup>1</sup> , HW-D 0268	HW-D-1008
	4	HW-D-1042	HW-D-1103
Concrete or Block Wall to Concrete Over Fluted Metal Deck (Top-of-Wall)	1	HW-D-0098	N/A**
	2	HW-D-0080, HW-D-0081, HW-D-0098	HW-D-1037
	3	N/A**	N/A**
	4	HW-D-0294	N/A**
Gypsum Wall to Flat Concrete Floor (Top-of-Wall)	1	HW-D-0757, HW-D-0082, HW-D-0083, HW-D-0106, HW-D-0119	HW-D-1011, HW-D-1012, HW-1020
	2	HW-D-0757, HW-D-0082, HW-D-0083, HW-D-0106, HW-D-0119	HW-D-1011, HW-D-1012, HW-1020
	3	HW-D-0119	HW-D-1011, HW-D-1012, HW-1020
Gypsum Shaft Wall to (Top-of-Wall)	2	HW-D-0342 (FLAT CONCRETE) HW-D-0541, HW-D-0542 (CONCRETE OVER METAL DECK)	N/A**
Gypsum Shaft Wall to Concrete Floor (Bottom-of-Wall)	1	BW-S-0023	N/A**
	2	BW-S-0023	N/A**
Gypsum Wall to Concrete Floor (Bottom-of-Wall)	1	BW-S-0001, BW-S-0002, BW-S-0039	N/A**
	2	BW-S-0001, BW-S-0002, BW-S-0039	N/A**
Gypsum Wall to Concrete Over Fluted Metal Deck (Top-of-Wall)	1	HW-D-0042*, HW-D-0049*, HW-D-0087*, HW-D-0089*, HW-D-0045, HW-D-0046*, HW-D-0076*, HW-D-0077*, HW-D-0154, HW-D-0184*, HW-D-0292, HW-D-0295, HW-D-538*	HWD-1011, HWD-1012, HW-1020
	2	HW-D-0042*, HW-D-0049*, HW-D-0087*, HW-D-0089*, HW-D-0045, HW-D-0046*, HW-D-0076*, HW-D-0077*, HW-D-0154, HW-D-0184*, HW-D-292, HW-D-0295, HW-D0538*	HW-D-1011, HW-D-1012, HW-D-1020
	3	HW-D-0292, HW-D-0295	HWD-1011, HWD-1012, HW-1020
	4	HW-D-0292, HW-D-0295	N/A**
Concrete (Wall to Wall)	2	WW-D-0017, WW-D-0082	WW-D-1080, WW-D-1084
	3	WW-D-1011 <sup>1</sup> , WW-D-0032	WW-D-1011
	4	WW-D-1047	WW-D-1128
Gypsum to Concrete (Wall to Wall)	1	WW-D-0040	N/A**
	2	WW-D-0040	N/A**

\* SEE NOTE 3 \*\* CONTACT HILTI FOR CURRENT UL-CLASSIFIED SYSTEM OR ENGINEER JUDGMENT DRAWING: 800-879-8000

NOTES:

1. CLASSIFIED SYSTEMS FOR 2" - 6" WIDE JOINTS MAY BE USED FOR JOINTS 2" WIDE AND LESS.
2. CONFIRM THAT MOVEMENT CAPABILITIES OF THE SELECTED UL SYSTEM MEETS OR EXCEEDS THE SPECIFIED MOVEMENT RANGE OF THE PARTICULAR JOINT.
3. SYSTEMS MARKED WITH ASTERIK (\*) ARE SUITABLE FOR TOP-OF-WALL JOINTS WHERE THE FLUTED METAL DECK HAS SPRAY-ON MONOKOTE MK-6/HY FIREPROOFING.
4. VERIFY ALLOWABLE JOINT WIDTH ON SPECIFIC UL SYSTEM DRAWING.

Schedule of through penetration firestop systems. Basis of design: Hilti, Inc

CONCRETE FLOORS			CONCRETE OR BLOCK WALLS		
TYPE OF PENETRANT	F-RATING (HR)	BASIS OF DESIGN UL SYSTEM	TYPE OF PENETRANT	F-RATING (HR)	BASIS OF DESIGN UL SYSTEM
CIRCULAR BLANK OPENINGS	1	F-A-0006, C-AJ-0055, C-AJ-0090	CIRCULAR BLANK OPENINGS	1	C-AJ-0055, C-AJ-0090
	2	F-A-0006, C-AJ-0055, C-AJ-0090		2	C-AJ-0055, C-AJ-0090
	3	F-A-0006, C-AJ-0055, C-AJ-0086,		3	C-AJ-0055, C-AJ-0086
SINGLE METAL PIPES OR CONDUIT	1	C-AJ-1226, F-A-1028, F-A-1017	SINGLE METAL PIPES OR CONDUIT	1	C-AJ-1226, W-J-1067, W-J-1020
	2	C-AJ-1226, F-A-1028, F-A-1017		2	C-AJ-1226, W-J-1067, W-J-1020, W-J-1248
	3	C-AJ-1226, F-A-1017		3	C-AJ-1226, W-J-1041, W-J-1068
	4	C-BJ-1037, C-BJ-1034		4	C-BJ-1034, C-BJ-1037, W-J-1041, W-J-1042, W-J-1068
SINGLE NON-METALLIC PIPE OR CONDUIT (I.E. PVC, CPVC, ABS, FRP, ENT)	1	F-A-2053, F-A-2025, C-AJ-2109, C-AJ-2098, C-AJ-2271, C-AJ-2167,	SINGLE NON-METALLIC PIPE OR CONDUIT (I.E. PVC, CPVC, ABS, FRP, ENT)	1	C-AJ-2109, C-AJ-2098, C-AJ-2167, C-AJ-2371, C-AJ-2342
	2	C-AJ-2098, C-AJ-2271, C-AJ-2167, C-BJ-2021, C-AJ-2371, C-AJ-2342		2	C-AJ-2109, C-AJ-2098, C-AJ-2167, C-AJ-2371, C-AJ-2342
	3	F-A-2054, C-AJ-2109, C-AJ-2098, C-AJ-2371, C-AJ-2342		3	C-AJ-2109, C-AJ-2098, C-AJ-2371, C-AJ-2342
	4	C-BJ-2016, C-AJ-2017		4	W-J-2057, W-J-2091
SINGLE/CABLE BUNDLES	1	F-A-3007, C-AJ-3095, C-AJ-3180, C-AJ-3283	SINGLE/CABLE BUNDLES	1	W-J-3036, C-AJ-3095, C-AJ-3180, W-J-3060, W-J-3167
	2	F-A-3007, C-AJ-3095, C-AJ-3334, F-A-3060		2	W-J-3036, C-AJ-3095, C-AJ-3180, W-J-3060, W-J-3167, W-J-3189
	3	F-A-3007, C-AJ-3095, C-AJ-3285		3	C-AJ-3095, C-AJ-3180, W-J-3167
CABLE TRAY	1	C-AJ-4034, C-AJ-4035	CABLE TRAY	1	W-J-4027, C-AJ-4034, C-AJ-4035
	2	C-AJ-4034, C-AJ-4035		2	W-J-4027, C-AJ-4034, C-AJ-4035
	3	C-AJ-4034, C-AJ-4035		3	C-AJ-4034, C-AJ-4035
	4			4	W-J-8007
SINGLE INSULATED PIPES	1	F-A-5015, F-A-5017, C-AJ-5090, C-AJ-5091, C-AJ-5090, C-AJ-5048	SINGLE INSULATED PIPES	1	C-AJ-5090, C-AJ-5091, C-AJ-5061, W-J-5042
	2	F-A-5015, F-A-5017, C-AJ-5090, C-AJ-5091, C-AJ-5090		2	C-AJ-5090, C-AJ-5091, C-AJ-5061, W-J-5042
	3	F-A-5016, C-AJ-5090, F-A-5018		3	C-AJ-5090, C-AJ-5061
	4	C-BJ-5006		4	C-BJ-5006, W-J-5028
ELECTRICAL BUSWAY	1	C-AJ-6006, C-AJ-6017, F-A-6002, C-AJ-6036	ELECTRICAL BUSWAY	1	C-AJ-6006, C-AJ-6017, C-AJ-6036
	2	C-AJ-6006, C-AJ-6017, F-A-6042, C-AJ-6036		2	C-AJ-6006, C-AJ-6017, C-AJ-6036
	3	C-AJ-6006, C-AJ-6017		3	C-AJ-6006, C-AJ-6017
MECHANICAL DUCTWORK WITHOUT DAMPERS NON-INSULATED	1	C-AJ-7046, C-AJ-7051, C-AJ-7084	MECHANICAL DUCTWORK WITHOUT DAMPERS NON-INSULATED	1	C-AJ-7046, C-AJ-7051, W-J-7021, W-J-7022
	2	C-AJ-7046, C-AJ-7051, C-AJ-7085		2	C-AJ-7046, C-AJ-7051, W-J-7021, W-J-7022
	3	C-AJ-7046, C-AJ-7051		3	C-AJ-7046, C-AJ-7051
MECHANICAL DUCTWORK WITHOUT DAMPERS INSULATED	N/A**	N/A**	MECHANICAL DUCTWORK WITHOUT DAMPERS INSULATED	1	W-J-7029, W-J-7124
				2	W-J-7091, W-J-7112, W-J-7124
MIXED PENETRANTS	1	C-AJ-8099, C-AJ-8056, C-AJ-8143	MIXED PENETRANTS	1	C-AJ-8099, C-AJ-8056, W-J-8007, C-AJ-8143
	2	C-AJ-8099, C-AJ-8056, C-AJ-8143		2	C-AJ-8099, C-AJ-8056, W-J-8007, C-AJ-8143
	3	C-AJ-8099, C-AJ-8056		3	C-AJ-8041, C-AJ-8056, W-J-8007, C-AJ-8099
	4	C-AJ-8095		4	C-AJ-8095, W-J-8007
WOOD FLOORS			GYPSUM WALLS		
TYPE OF PENETRANT	F-RATING (HR)	BASIS OF DESIGN UL SYSTEM	TYPE OF PENETRANT	F-RATING (HR)	BASIS OF DESIGN UL SYSTEM
METAL PIPES OR CONDUIT	1	F-C-1009, F-C-1059, F-C-1168	METAL PIPES OR CONDUIT	1	W-L-1054, W-L-1058, W-L-1164, W-L-1506
	2	F-C-1009, F-C-1059, F-C-1168		2	W-L-1054, W-L-1058, W-L-1164, W-L-1506
NON-METALLIC PIPE OR CONDUIT	1	F-C-2232, F-C-2030, F-C-2160, F-C-2389		NON-METALLIC PIPE OR CONDUIT	4
	2	F-C-2029, F-C-2030, F-C-2128, F-C-2160	1		W-L-2078, W-L-2075, W-L-2128
SINGLE OR BUNDLED CABLES	1	F-C-3012, F-C-3110, F-C-3044	SINGLE OR BUNDLED CABLES		2
	2	F-C-3012, F-C-3110		4	W-L-2184, W-L-2245
				1	W-L-3065, W-L-3111, W-L-3112, W-L-3334, W-L-3414, W-L-3396
				2	W-L-3065, W-L-3111, W-L-3112, W-L-3334, W-L-3414, W-L-3396
INSULATED PIPES	1	F-C-5004, F-C-5037, F-C-5036	CABLE TRAY	3	W-L-3385, W-L-3277
				4	W-L-3139, W-L-3334
				1	W-L-4011, W-L-4019, W-L-4081
	2	F-C-5004, F-C-5037	INSULATED PIPES	2	W-L-4011, W-L-4019, W-L-4081
		4		W-L-8014	
		1		W-L-5028, W-L-5029, W-L-5047	
NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	F-C-7013	NON-INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	2	W-L-5028, W-L-5029, W-L-5047
				4	W-L-5073
INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	N/A**	INSULATED MECHANICAL DUCTWORK WITHOUT DAMPERS	1	W-L-7017, W-L-7040, W-L-7042, W-L-7155
	2	N/A**		2	W-L-7040, W-L-7042, W-L-7155
MIXED PENETRANTS	1	F-C-8009, F-C-8014, F-C-8026	MIXED PENETRANTS	1	W-L-7059, W-L-7153, W-L-7156, W-L-7151
				2	W-L-7059, W-L-7153, W-L-7156, W-L-7151
				1	W-L-1095, W-L-8013
				2	W-L-1095, W-L-8013
				4	W-L-8014

END OF SECTION

## SECTION 07 90 00 JOINT PROTECTION

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. This Section includes joint sealers for the following locations:
  - 1. Interior joints in vertical surfaces and horizontal non-traffic surfaces as indicated below:
    - a. Locations, as noted on drawings, not specified elsewhere.
    - b. Perimeter joints between interior wall surfaces and frames of interior doors and windows and miscellaneous penetrations.
    - c. Perimeter joints of toilet fixtures, including water closets, urinals and wall sinks.
    - d. At intersection of plastic laminate tops and splashes and at splashes to wall.
    - e. Other joints as indicated.
  - 2. Smoke and fire-resistant joint sealers at openings around penetrations of cables, conduit, pipe and similar penetration of rated walls and floors.

#### 1.02 DEFINITIONS

- A. The terms “Sealant,” “Caulk,” “Calk” or “Caulking” will be understood to be as follows:
  - 1. Sealant: Elastomeric material used to seal moving joints against the intrusion of liquids, solids, or gases. May also be material used for security, fire resistance, or other special joint requirements.
  - 2. Caulk, Calk, or Caulking: Refer to elastomeric joint sealant materials and do not refer to the type of material required. Use only the specialized elastomeric joint sealants for all exterior and interior joint sealant work.

#### 1.03 SYSTEM PERFORMANCES

- A. Provide joint sealers produced and installed to establish and maintain watertight and airtight continuous seals.

#### 1.04 SUBMITTALS

- A. Submit product data from manufactures for each joint sealer product required, including instructions for joint preparation and joint sealer application.
- B. Submit samples, for verification purposes, of each type and color of joint sealer required. Install joint sealer samples in 1/2 inch wide joints formed between two 6 inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealers.
- C. Submit certificates from joint sealer manufacturers attesting their products comply with specification requirements and are suitable for the use indicated.
- D. Submit qualification data specified in “Quality Assurance” article. Include list of completed projects with project name, addresses, names of Architects and Owners,

plus other information specified.

- E. Submit compatibility and adhesion test reports from elastomeric sealant manufacturer indicating materials forming joint substrates and joint sealant backings have been tested for compatibility and adhesion with joint sealants. Include sealant manufacturer's interpretation of test results relative to sealant performance and recommendations for primers and substrate preparation needed to obtain adhesion.
- F. Submit product test reports for each type of joint sealers indicated, evidencing compliance with requirements specified.
- G. Submit preconstruction field test reports indicating which products and joint preparation methods demonstrate acceptable adhesion to joint substrates.

#### 1.05 QUALITY ASSURANCE

- A. Installer Qualifications: An Installer who has successfully completed within the last three (3) years at least three joint sealer applications similar in type and size to that of this Project.
- B. Single Source Responsibility for Joint Sealer Materials: Obtain each type of joint sealer material from a single manufacturer for each different product required.

#### 1.06 WARRANTY

- A. Provide a written (5) five year manufacturer and also a separate (5) five year warranty from the General Contractor guaranteeing to replace any or all joints which fail within this period after final acceptance.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers of bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store and handle materials in compliance with manufacturers' recommendations to prevent their deterioration of damage due to moisture, high or low temperatures, contaminants, or other causes.

#### 1.08 PROJECT CONDITIONS

- A. Environmental Conditions: Do not proceed with installation of joint, sealers under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturer of below 40°F.
  - 2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- B. Joint Width Conditions: Do not proceed with installation of joint sealers where joint widths are less than or greater than allowed by joint sealer manufacturer for application indicated.

- C. Joint Substrate Conditions: Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

## 2.0 PRODUCTS

### 2.01 MATERIALS, GENERAL

- A. Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacture based on testing and field experience.
- B. Colors; provide colors of exposed joint sealers, as selected by A/E from manufacturer's complete selection of available colors.

### 2.02 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric sealant standard; manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM 920 requirements, including those referenced for Type, Grade, Class, and Uses.
- B. Products; subject to compliance with requirements, provide one of the following:
  - 1. Multi-part non-sag urethane sealant for use NT; exterior joints in vertical surfaces and non-traffic horizontal surfaces.
    - a. "Chem-Calk 500"; Bostik Construction Products Div.
    - b. "Vulkem 227"; Mameco International Inc.
    - c. "Sonolastic NP2"; Sonneborn Building Products Div., Chem Rex, Inc.
  - 2. Multi-part non-sag urethane sealant for use T; exterior and interior joints in horizontal traffic surfaces, including concrete pavements and sidewalks.
    - a. "Chem-Calk 500"; Bostik Construction Products Div.
    - b. "Vulkem 227"; Mameco International Inc. '
    - c. "Sonolastic SL-2 Slope Grade"; Sonneborn Building Products Div. Chem Rex, Inc.
  - 3. Acrylic-latex sealant; interior joints to be painted.
    - a. "Acrylic Latex 834"; Tremco
    - b. "Sonolac"; Sonneborn Building Products Div., Chem Rex, Inc.
    - c. "AC-20"; Pecora

### 2.03 FIRE-RESISTANT JOINTS SEALERS

- A. General; provide manufacturer's standard firestopping sealant, with accessory materials, having fire-resistance ratings indicated as established by testing identical assemblies per ASTM E 814 by Underwriters Laboratory, Inc. or other testing and inspecting agency acceptable to authorities having jurisdiction.
- B. One-part firestopping sealant; one part elastomeric sealant formulated for use in a through-penetration firestop system for sealing openings around cables, conduit, pipes and similar penetrations through walls and floors.
- C. Products; subject to compliance with requirements, provide one of the following:
  - 1. "Dow Corning Fire Stop Sealant"; Dow Corning Corp.

2. "3M Fire Barrier Caulk CP-25"; Electrical Products Div./3M.
3. "RTV 7403"; General Electric Company.

## 2.05 JOINT SEALANT BACKING

- A. General; provide sealant backings of material and type which are non-staining compatible with joint substrates, sealants, primers and other joint fillers and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Plastic foam joint fillers; preformed, compressible, resilient, non-waxing, non-extruding strips of flexible, non-gassing plastic foam of material indicated below; non-absorbent to water and gas; of size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
  1. Either open-cell polyurethane foam or closed-cell polyethylene foam, unless otherwise indicated, subject to approval of sealant manufacturer, for cold-applied sealants only.
- C. Bond breaker tape; polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

## 2.06 MISCELLANEOUS MATERIALS

- A. Primer; provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated.
- B. Cleaners for non-porous surfaces; non-staining, chemical cleaners of type which are acceptable to manufacturers of sealants and sealant backing materials, which are not harmful to substrates and adjacent non-porous materials, and which do not leave oily residues or otherwise have a detrimental effect on sealant adhesion or in-service performance.
- C. Masking tape; non-staining, non-absorbent type compatible with joint sealants and to surfaces adjacent to joints.
- D. Accessory materials for firestopping sealants; provide forming, joint fillers, packing and other accessory materials required for installation of firestopping sealants as applicable to installation conditions indicated.

## 3.0 EXECUTION

### 3.01 EXAMINATION

- A. Examine joints indicated to receive joint sealers, with Installer present, for compliance with requirements for joint configuration, installation tolerances and other conditions have been corrected.
- B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

### 3.02 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements.
  - 1. Remove foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; old joint sealers; oil; grease; water; surface dirt; and frost.
  - 2. Clean concrete, masonry, and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
  - 3. Remove laitance and form release agents from concrete.
  - 4. Clean metal, glass, and other non-porous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
- B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on preconstruction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.03 INSTALLATION OF JOINT SEALERS

- A. General: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. Elastomeric Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications and conditions indicated.
  - 1. Provide standard elastomeric joint sealants except where fire-resistant joint sealants are required.
- C. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:
  - 1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability.

- a. Do not leave gaps between ends of joint fillers.
- b. Do not stretch, twist, puncture, or tear joint fillers.
- 2. Install bond breaker tape between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.
- D. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.
- E. Tooling of Non-sag Sealants: Immediately after sealant application and before time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
  - 1. Provide concave joint configuration.
- F. Installation of Firestopping Sealant: Install sealant, including forming, packing, and other accessory materials to fill openings around mechanical and electrical services penetrating floors and walls to provide firestops with fire resistance ratings indicated for floor or wall assembly in which penetration occurs. Comply with installation requirements established by testing and inspecting agency. Each trade will be responsible for sealing their penetrations for fire stopping.

### 3.04 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

### 3.05 PROTECTION

- A. Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

END OF SECTION 07 90 00

## SECTION 08 31 00 ACCESS DOORS

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. This Section includes access doors for installation, in suspended gypsum board ceiling systems, as indicated on the drawings.
- B. Provide heavy duty, vandal resistant, detention/security grade access doors .
- C. Related Sections:
  - 1. Painting and Coating, Section 09 90 00.

#### 1.02 SUBMITTALS

- A. Submit product data in form of manufacturer's technical data and installation instructions for access door assembly, including setting drawings, templates, instructions, and directions for installation of anchorage, devices.
- B. Submit shop drawings showing fabrication and installation of access door and frame, including details of frame type, elevations of door design types anchorage and accessory items.
  - 1. Include complete schedule, including types, locations, sizes, ceiling construction details, finishes, latching or locking provisions, and other data pertinent to installation.

### 2.0 PRODUCTS

#### 2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide access doors by one of the following:
  - 1. Acudor.
  - 2. J.L. Industries.
  - 2. Karp Associates.
  - 3. Larsen's Manufacturing Co.
  - 4. Milcor, Inc.

#### 2.02 MATERIALS AND FABRICATION

- A. General: Furnish access door assembly manufactured as an integral unit, complete with all parts, and ready for installation.
- B. High security grade steel access door and frame; continuous welded steel construction unless otherwise indicated. Grind welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels to types of support shown.
- C. Frame; fabricate from minimum 2 inch x 2 inch x 3/16 inch steel angles. Exposed

angles welded and ground smooth.

1. Fabricate frame with exposed flange around perimeter of frame.
- D. Flush panel door; fabricate from not less than 10 gauge galvanized sheet steel, with continuous, non-removable, piano hinge set to open 175 degrees. Finish with manufacturer's factory-applied prime paint.
- E. Locking device; at each access panel, provide trox head cam latch with security pin.

### 3.0 EXECUTION

#### 3.01 INSTALLATION

- A. Comply with manufacturer's instructions for installation of access door and coordinate with work of other trades.
- B. Set frame accurately in position and securely attach to supports with face panels plumb or level in relation to adjacent finish surfaces.
- C. Verify appropriateness of location of access panel for service and appearance in the field with the A/E, before installation.

#### 3.02 ADJUST AND CLEAN

- A. Adjust hardware and panel after installation for proper operation.
- B. Remove and replace panel or frame that is warped, bowed, or otherwise damaged.

END OF SECTION 08 31 00

## SECTION 08 34 53 SECURITY DOORS AND FRAMES

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. This Section includes standard pressed steel door frames, hollow metal doors, steel security window frames, glass stops, bucks, braces, and other work shown on Drawings.
  - 1. Frames; welded unit type pressed steel frames for doors and security windows.
  - 2. Factory primed frames ready for field painting.
  - 3. Glazed openings.
  - 4. Anchors, spreaders, floor clips, and similar items as required for a complete installation.
  - 5. Hardware preparation and reinforcement to accommodate specified hardware.
- B. Related Sections.
  - 1. Grouting of hollow metal frames in masonry: Section 04 05 13.
  - 2. Finish hardware: Section 08 71 00.
  - 3. Glass and glazing: Section 08 80 00.

#### 1.02 SUBMITTALS

- A. Submit product data for each type of frame specified, including details of construction, materials, dimensions, hardware preparation, core label compliance, sound ratings, profiles, and finishes.
- B. Submit shop drawings showing fabrication and installation of steel frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of door and frame hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
  - 1. Provide schedule of frames using same reference numbers for details and openings as those on Contract Drawings.
  - 2. Indicate coordinate of glazing frames and stops with glass and glazing requirements.

#### 1.03 QUALITY ASSURANCE

- A. Provide doors and frames complying with Steel Door Institute “Recommended Specifications Standard Steel Doors and Frames” ANSI/SDI-100, latest edition, and as specified.
  - 1. Materials and methods shall equal or exceed NAAM Standard HMMA-861 or the Hollow Metal Manufacturers Association entitled “Guide Specifications for Commercial Hollow Metal Doors and Frames” except as modified.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

ODYS INDIAN RIVER FACILITY

RESTROOM/LAUNDRY ROOM RENOVATIONS

08 34 53-1

- A. Deliver doors and frames and cardboard-wrapped or crated to provide protection during transit and job storage.
- B. Inspect doors and frames upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable to A/E, otherwise, remove and replace damaged items as directed.
- C. Store doors and frames at building site under cover. Place units on minimum 4-inches high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4-inch spaces between individual stacked doors to promote air circulation.

## 2.0 PRODUCTS

### 2.01 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide standard steel doors and frames by one of the following:
  - 1. American Steel Products
  - 2. TrussBuilt.
  - 2. Forderer
  - 3. Habersham

### 2.02 MATERIALS

- A. Cold Rolled Steel Sheets: ASTM A336, Commercial Steel, or ASTM A620, Drawing Steel, Type B; stretcher-leveled standard flatness.
  - 1. Application: Interior, unless otherwise noted.
- B. Supports and anchors; 16 gauge sheet steel; galvanized where used with galvanized frames.
- C. Inserts, bolts, and fasteners; manufacturer's standard units. Where items are to be built into exterior walls, hot-dip galvanize in compliance with ASTM A 153, Class C or D as applicable.
- D. Shop applied primer paint; white or similar light color rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints complying with ANSI A224.1, "Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames." Apply after fabrication.

### 2.03 DOORS

- A. Materials
  - 1. Doors shall be manufactured of commercial quality, level, cold-rolled steel conforming to ASTM A 1008 / A1008M CS type B or hot-rolled, pickled and oiled steel conforming to ASTM A 1011 / A 1011M CS type B. The steel shall be free of scale, pitting, coil breaks, buckles, waves or other surface blemishes or defects.

2. Interior doors: Face sheets shall be for Grades 1 and 2: 0.093 in. (2.3 mm) minimum thickness. Face sheets shall be zinc coated steel face sheets.

B. Door Construction:

1. All doors shall be of the types and sizes shown on the approved submittal drawings, shall be constructed in accordance with the specifications and shall meet the performance requirements of Paragraph 1.05 where applicable. Alternate materials and methods of construction, which meet the aforementioned performance criteria, shall be permitted.
2. Door face sheets shall be joined at their vertical edges by a continuous tungsten inert gas (TIG) weld extending the full height of the door. This edge seam weld shall be sanded smooth and be neat in appearance. The door vertical edges shall not be covered with auto body putty or metallic fillers. The weld shall be visible to ensure a continuous weld.
3. Door thickness shall be 2 in. (50 mm) nominal to accommodate detention hardware. Doors shall be neat in appearance and free from warpage or buckle. Edge bends shall be true and straight and of minimum radius for the thickness of material used.
4. The door shall be stiffened by one of the following systems:
  - a. Continuous steel truss design core material, .015 in. (.4 mm) minimum, having truncated triangular roll formed sections extending continuously from one door face to the other, spot welded to each face sheet 2 ¾ in. (69.9 mm) oc horizontally and 3 in. (76.2 mm) oc vertically. Core material shall extend full height and width of door.
  - b. Rolled or formed 1/8 in. (3.2 mm) steel channels extending from top to bottom of door and continuous from one face to the other, spaced not more than 4 in. (101.6 mm) oc and spot welded to door faces not more than 3 in. (76.2 mm) oc vertically.
  - c. Continuous vertical hat sections, one such hat section welded to each face of the door, .053 in. (1.3 mm), with vertical webs no more than 4 in. (101.6 mm) apart. Hat sections shall be welded to each other at least 6 in. (152.4 mm) oc both sides in order to prevent separation.
5. Spaces between stiffeners shall be filled with fiberglass or mineral rockwool batt-type material.
6. The vertical edges shall be reinforced by a continuous steel channel extending the full height of the door and welded to both face sheets. The channels' thickness shall be not less than the thickness of the door face sheet. The top and bottom edges shall be closed with a continuous channel, the same thickness as the vertical edge channels and shall be spot-welded to the face sheet a maximum of 3 in. (76 mm) o.c. The closing end channel shall be continuously welded to the vertical reinforcing channel at all four corners producing a fully welded perimeter reinforcing channel.
7. The top and bottom end channel shall be fitted with an additional flush closing channel of the same material thickness. The flush closing channel shall be welded in place at the corners and at the center.
8. Edge profiles shall be provided on both vertical edges of doors as follows:

Single acting doors - beveled 1/8 in. (3 mm) in 2 in. (50 mm) profile

9. Hardware reinforcements:
  - a. Doors shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted hardware - or non-templated mortised hardware - is to be applied, doors shall be reinforced, and all drilling and tapping shall be done by others in the field.

b. Minimum thicknesses for hardware reinforcements shall be as follows:

- Full mortise hinges and pivots 0.167 in. (4.2 mm)
- Surface applied maximum security hinges 0.214 in. (5.4 mm)
- Strikes 0.167 in. (4.2 mm)
- Slide device hanger attachment - per device manufacturer's recommendations
- Lock fronts, concealed holders,  
or surface mounted closer 0.093 in. (2.3 mm)
- All other surface applied hardware 0.093 in. (2.3 mm)

## 2.04 FRAMES

- A. Metal frames for doors and windows. Conceal fastenings, unless otherwise indicated. Fabricate frames with mitered, coped, and continuously welded full face weld and full web weld. Grind welds smooth.
1. Frames; minimum 12 gauge cold-rolled steel.
  2. Frames for openings over 4 feet wide; provide a channel stiffener of 12 gauge steel welded into head, except where indicated otherwise.
- B. Door silencers; provide 3 silencers on strike jambs of single-door frames.
- C. Plaster guards; minimum 26 gauge steel plaster guards or mortar boxes at back of hardware cutouts.
- D. Materials
1. Frames shall be constructed of commercial quality, cold rolled steel conforming to ASTM A 366 or hot rolled, pickled [dry or oiled] steel conforming to ASTM A 569. The steel shall be free of scale, pitting, coil breaks or other surface defects.
  2. Interior openings: Steel shall be for Grades 1 and 2, 0.093 in. (2.3 mm) minimum thickness. Frames shall be zinc coated steel sheets.
- E. Construction:
1. All frames shall have integral stops and be welded units of the sizes and types shown on approved submittal drawings. Frames shall be constructed in accordance with these specifications and meet performance criteria specified in Sections 1.06C through 1.06D where applicable. Alternate materials and methods of construction, which meet the aforementioned performance criteria, shall be permitted.
  2. All finished work shall be neat in appearance, square, and free of defects, warps and buckles. Pressed steel members shall be straight and of uniform profile throughout their lengths.
  3. Jamb, header and sill profiles shall be in accordance with the frame schedule and as shown on the approved submittal drawings.
  4. Corner joints shall have all contact edges closed tight with faces mitered and stops either butted or mitered. Corner joints shall be continuously welded and the use of gussets or splice plates shall be unacceptable.
  5. Minimum height of stops in door openings shall be 0.625 in. (16 mm). Height of stops on security glass or panel openings shall be as shown on approved submittal drawings. Cut-off stops, where shown, shall be capped at 45 degrees or 90 degrees at heights as shown on approved submittal drawings, and jamb joints below cut-off stops shall be tight fitting and welded, then finished as necessary to present a neat, flush appearance.
  6. When shipping limitations so dictate, frames for large openings shall be fabricated in sections designated for splicing in the field by others. Where splicing is necessary, angle splices shall

- be installed at the corners of the profile, and shall extend at least 4 in. (102 mm) on either side of the joint. Splicing angles shall be the same gage thickness as the frame. Field splices shall
7. Frames for multiple openings shall have mullion members which, after fabrication, are closed tubular shapes conforming to profiles shown on approved submittal drawings. All joints between faces of abutted members shall be continuously welded and finished smooth. All joints between stops of abutted members shall be welded along the soffit and shall be left neat and uniform in appearance. The contractor responsible for installation shall provide for welding and finishing all field joints between faces of abutted members.
  8. Hardware Reinforcements and Preparation:
    - a. Frames shall be mortised, reinforced, drilled and tapped for all templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted hardware - anchor hinges, thrust pivots, pivot reinforced hinges, or non-templated mortised hardware - is to be applied, frames shall be reinforced, and all drilling and tapping shall be done by others in the field.
    - b. Minimum thickness of hardware reinforcing plates shall be as follows:
 

Hinges and pivots	0.167 in. x 1.5 in. x 10 in. length (4.2 mm x 38 mm x 254 mm)
Strikes	0.167 in. (4.2 mm)
Closers	0.167 in. (4.2 mm)
Flush bolts	0.167 in. (4.2 mm)

All other surface applied hardware - 0.093 in. (2.3 mm)
  10. Jamb Anchors:
    - a. Anchor Spacing: The number of anchors provided on each jamb shall be as follows:
 

Door frames	2 anchors plus 1 for each 16 in. (406 mm) or fraction thereof over 54 in. (1372 mm), spaced at 16 in. (406 mm) maximum between anchors (fire ratings can require additional anchors)
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  11. Grout guards shall be provided at all hardware preparations, glazing stop screws and silencer preparations on frames to be set in masonry or concrete openings. Grout guards shall be sufficient to protect preparations from grout of a 4 in. (102 mm) maximum slump consistency which is hand troweled in place. All hinge grout guards and lock pockets shall be caulked after priming to ensure maximum protection from grout seepage.
    - a. Grout guards for glazing stop screws shall be factory installed and shall cover the exposed portion of the screws inside the frame throat, around the perimeter. Where mullions are required to be grouted, screws inside mullions shall be protected with grout guards.
    - b. Steel grout guards shall protect silencer preparations where accessible from the frame throat. Silencers shall be furnished and installed by the contractor responsible for frame installation except where limited access prevents installation of the metal grout guards in mullions, in which case silencers shall be factory furnished and installed.
  12. All frames shall be provided with two (2) temporary steel spreaders welded to the bottom of the jambs to serve as bracing during shipping and handling. The installation contractor shall be responsible for removing, finishing, and touch-up of marks caused by spreader removal.

13. Removable glazing stops:
  - a. In openings where security glazing is specified and where shown on the approved submittal drawings, pressed steel angle glazing stops, not less than 0.093 in. (2.3 mm), shall be provided. Angle stops shall be mitered or butted and tight fitting at the corner joints, and secured in place using machine security/tamper proof screws of the size and spacing necessary .
  - b. The frame underneath the glazing stops and the inside of the glazing stops shall be treated for maximum paint adhesion and painted with a rust inhibitive primer prior to installation in the frame.

## 2.05 FRAME ANCHORS

- A. Provide T-strap anchors, minimum 12 gauge, for frames installed in masonry walls.
- B. Masonry anchors for hollow metal frames shall be at least 4 inches long.
- C. Provide 12 gauge floor anchors which are full width of frame and securely welded.
- D. Modify frame anchors to fit special frame and wall construction and provide special anchor where shown or required. On shop drawings analyze each jamb condition and provide proper anchor for each condition.

## 2.06 HARDWARE LOCATIONS

### A. Hinges:

Top      7 in. (177.8 mm) from frame head to top of hinge

Bottom    10 in. (254 mm) from floor to bottom of hinge

Intermediate          centered between top and bottom hinges

- B. Locks and latches: 38 in. (965 mm) to centerline of knob or lever shaft
- C. Deadlocks: 46 in. (1168 mm) to centerline of cylinder
- D. Exit hardware: 38 in. (965 mm) to centerline of cross bar or as shown on hardware template
- E. Door pulls: 42 in. (1066 mm) to centerline of grip

## 2.07 FINISH

- A. After fabrication, all tool marks and surface imperfections shall be filled and sanded as required to make face sheets, vertical edges and weld joints free from irregularities. After appropriate metal preparation, all exposed surfaces of doors and frames shall receive a rust inhibitive primer which meets or exceeds ANSI A 250.10, "Test Procedures and Acceptance Criteria for Prime Painting Steel Surfaces for Steel Doors and Frames." For stainless steel finishes refer to ANSI/NAAMM/HMMA-866.

## 2.08 ACCESSORIES

- A. Glazing stops; minimum 20 gauge steel, unless noted otherwise.
  1. Design rabbet width and depth to receive glazing material specified and as shown on Drawings.

## 2.09 FABRICATION

- A. Fabricate steel door and frame units rigid neat in appearance and free from defects, warp or buckle. Wherever practicable, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory-assembled before shipment, to assure proper assembly at project site. Comply with ANSI/SDI-100 requirements as follows.
  - 1. Interior door core; steel stiffeners of not less than 22 gauge steel not more than 6 inches apart spot welded to face sheet on maximum 6 inch centers with spaces between stiffeners filled with minimum 0.6 pounds density insulation or sound deadener applied to inside surfaces of face sheets.
  - 2. Clearances; not more than 1/8 inch at jambs and heads except between non-fire-rated pairs of doors not more than 1/4 inch. Not more than 3/4 inch at bottom.
- B. Fabricate exposed faces of doors and panels from cold-rolled steel. Steel faces shall have smooth finish.
- C. Tolerances; comply with SDI 117 "Manufacturing Tolerances Standard Steel Doors and Frames."
- D. Hardware preparation; prepare doors and frames to receive mortised and concealed hardware, (including all function holes for locksets and exit devices), in accordance with final Door Hardware Schedule and templates provide by hardware supplier. Comply with applicable requirements of ANSI A115 Series specifications for door and frame preparation for hardware. Hardware preparation, except for surface mounted items, shall be done in the factory.
- E. Reinforce doors and frames to receive surface applied hardware. Drilling and tapping for surface applied hardware may be done at project site except as indicated otherwise.
- F. Locate hardware as indicated on final shop drawings or, if not indicated, in accordance with "Recommended Locations for Builder's Hardware on Standard Steel Doors and Frames," published by Door and Hardware Institute.
- G. Shop painting; clean, treat, and prime paint exposed surfaces of steel door and frame units, including galvanized surfaces.
  - 1. Clean steel surfaces of mill scale, rust, oil, grease, dirt, and other foreign materials before application of paint.
  - 2. Apply shop coat of prime paint of even consistency to provide a uniformly finished surface ready to receive finish paint in field.
  - 3. Prime all concealed surfaces, including throat with rust inhibitive primer.

## 3.0 EXECUTION

### 3.01 INSTALLATION

- A. Install standard steel doors, frames, and accessories in accordance with final shop drawings, manufacturer's data, and as specified.
  - B. Placing frames; comply with provisions of SDI-105 "Recommended Erection
- ODYS INDIAN RIVER FACILITY  
RESTROOM/LAUNDRY ROOM RENOVATIONS

Instructions For Steel Frames,” unless otherwise indicated.

1. Where possible, place frames before construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set and frames retain proper position during construction. After wall construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.
  2. Frames for opening over 4 feet wide shall have a vertical brace placed at the center to support frame head during installation until grouting has cured.
  3. In masonry construction, locate 3 wall anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Acceptable anchors include masonry wire anchors and masonry Tee anchors.
    - a. Embed frame anchors in masonry walls in mortar and frames grout filled as walls are built. Refer to Section 04200.
  4. Install fire-rated frames in accordance with NFPA Standard No. 80.
  5. Initially install jamb silencers prior to grouting of hollow metal frames.  
**GROUT ALL NEW FRAMES SOLID UNLESS SPECIFICALLY NOTED OTHERWISE IN THE DRAWINGS.** After grouting, remove jamb silencers and provide new jamb silencers upon completion of final painting of frame.
- C. Door installation; fit hollow metal doors accurately in frames using stainless steel shims, within clearances specified in ANSI/SDI-100-91.
1. Install fire-rated doors with clearances as specified in NFPA Standard No. 80.
- D. All hardware except hinges shall be installed after field painting.

### 3.02 ADJUST AND CLEAN

- A. Prime coat touch-up; immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.
- B. Final adjustments; check and readjust operating hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition. Upon completion of installation, each door shall operate smoothly and easily. Doors with closers shall latch under power of closer.

END OF SECTION 08 11 13

## SECTION 08 71 00 DOOR HARDWARE

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Furnish labor, materials, equipment, transportation, and services necessary to complete the following work:
  - 1. Finish door hardware installation including necessary screws, bolts, special fasteners, expansion shields, and other devices necessary and required for proper hardware application and use.
  - 2. Temporary locks at exterior doors for security during construction. After construction is completed, remove temporary locks.
  - 3. If hardware items are not specified but are required for completion of the work, furnish items of type and quality suitable to the service and function required and comparable to adjacent hardware.
- B. Types of finish hardware required include the following:
  - 1. Hinges
  - 2. Closers
  - 3. Latchsets, locksets and cylinders
  - 4. Stops
  - 5. Cylinder for access door
- C. Related Sections:
  - 1. Security doors and frames: Section 08 34 53
  - 2. Access Doors: Section 08 31 00

#### 1.02 DEFINITIONS

- A. Finish hardware; includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame.

#### 1.03 SUBMITTALS

- A. Submit product data for each item of hardware. Include whatever information may be necessary to show compliance with requirements, and instructions for installation and maintenance of operating parts and finishes.
  - 1. Hardware Schedule will not be considered for review without complete product data sheets.
- B. Submit Hardware Schedule in manner indicated below. Coordinate hardware with doors, frames and related work to ensure proper size, thickness, hand, function and finish of hardware.
  - 1. Hardware Schedule shall be prepared by a member in good standing of the American Society of Architectural Hardware Consultants.
  - 2. Based on finished hardware indicated, submit hardware schedule indicating

complete designations of every item required for each door or opening. Include the following information:

- a. Type, style, function, size and finish of each hardware item.
  - b. Name and manufacturer of each item.
  - c. Fastenings other pertinent information,
  - d. Location of hardware set cross-referenced to indications on Drawings both on floor plans and in door and frame schedule.
  - e. Explanation of abbreviations, symbols, codes, etc. contained in schedule.
  - f. Mounting locations for hardware.
  - g. Door and frame material.
  - h. Keying information.
3. Submit schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work (e.g. hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to the coordinated review of hardware schedule.
  4. Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
- C. Before submittal of the final hardware schedule and before final ordering of finish hardware, submit one sample of each type of exposed hardware unit, finished as required, and tagged with full description for coordination with schedule.
1. Samples will be returned to the supplier. Units which are acceptable and remain undamaged through submittal, review and field comparison procedures may, after final check of operation, be used in the work, within limitations of keying coordination requirements.
- D. Furnish hardware templates to each fabricator of doors, frames and other work to be factory-prepared for the installation of hardware. Upon request, check shop drawings of other work, to confirm adequate provisions are made for proper location and installation of hardware.
- E. Submit written record signed by Owner's personnel that instructions were received and Contractor returned to project site for maintenance as specified in Part 3 of this Section.
- F. Before Substantial Completion submit to Owner the following:
1. Instruction sheets for all locks, door closers, and any other special hardware items.
  2. Special closers and lock wrenches.
  3. Signed record of receipt of transmittal.

#### 1.04 QUALITY ASSURANCE

- A. A recognized architectural finish hardware supplier, with warehousing facilities, who has been furnishing hardware in the project's vicinity for not less than 5 years, and who is, or who employs an experienced Architectural Hardware Consultant who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to Owner, A/E, and Contractor.

- B. Obtain each type of hardware (latch and lock sets, hinges, closers, etc) from a single manufacturer, even though several may be indicated as offering products complying with requirements.
- C. Provide hardware for fire-rated openings in accordance with NFPA 80 and local building code requirements. Provide only hardware which has been tested and listed by UL or FM for types and sizes of doors required and complies with requirements of door and door frame labels.
  - 1. Where emergency exit devices are required on fire-rated doors, (with supplementary marking on doors' UL or FM labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide UL or FM label on exit devices indicating "Fire Exit Hardware".

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Tag each item or package separately, with identification related to final hardware schedule, and include basic installation instructions with each item or package.
- B. Packing of hardware is responsibility of supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packaged in same container.
- C. Deliver individually packaged hardware items at the proper times to the proper locations (shop or project site) for installation.
- D. Provide secure lock-up for hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

#### 1.06 WARRANTIES

- A. Provide written (10) ten year warranty by the manufacturer against defects in materials and/or workmanship for closers.
- B. Provide written (3) three year warranty by the manufacturer against defects in materials and/or workmanship for locksets.

### 2.0 PRODUCTS

#### 2.01 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware is indicated in Paragraph 2.02 and Hardware Schedule 2.05. Products are identified by using hardware designation numbers of the following:
  - 1. One or more manufacturers are listed for each hardware type required. An asterisk (\*) after a manufacturer's name indicates the product designation is used in the Hardware Schedule as the Basis of Design component. Provide either the

product designated, or where more than one manufacturer is listed, the comparable product of one of the other manufacturers which comply with requirements including those specified elsewhere in this section.

## 2.02 HARDWARE PRODUCTS

- A. Hinges: IVES(\*), McKinney, Hager, Stanley
- B. Locksets and Strikes: Southern Folger, No Substitutions
- C. Cores and Keys: By Owner
- D. Closer: LCN(\*), Sargent
- E. Key Cabinets; Lund (\*) Telkey, HPC

## 2.03 MATERIALS AND FABRICATION

### A. General:

1. Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.
2. Produce hardware units of basic metal and forming method indicated, using manufacturer's standard metal alloy, composition, temper and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI A156 series standard for each type hardware item and with ANSI A156.18 for finish designations indicated. Do not furnish optional materials or forming methods for those indicated, except as otherwise specified.
3. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.
4. Furnish screws for installation, with each hardware item. Provide pin head torx screws. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.
5. Provide concealed fasteners for hardware units which are exposed when door is closed, except to extent no standard units of type specified are available with concealed fasteners. Do not use through-bolts for installation where bolt head or nut opposite face is exposed in other work, except where it is not feasible to adequately reinforce the work. In such cases, provide sleeves for each through-bolt or use sex screw fasteners.
6. Tools and maintenance instructions for maintenance; furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of finish hardware.

## 2.04 LOCK CYLINDERS AND KEYING

- A. Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.
- B. Review keying system with Owner and provide type required (master, grandmaster) integrated with Owner's existing system.
- C. Construct lock cylinder parts from brass/bronze, stainless steel or nickel silver. Cylinders shall be cast.
- D. Comply with Owner's instruction for masterkeying and, except as otherwise indicated, provide individual change key for each lock which is not designed to be keyed alike with a group of related locks.
  - 1. Permanently inscribe each key with number or lock that identifies cylinder manufacturer key symbol, and notation "DO NOT DUPLICATE".
- E. Keys; plain bow type, of nickel silver only.
- F. Key quantity; furnish 2 change keys for each lock; 5 master keys for each master system; and 5 grandmaster keys for each grandmaster system.
  - 1. Furnish one extra blank for each lock.
  - 2. Deliver keys to Owner's representative. **AT NO TIME ARE KEYS TO BE UNDER THE CONTROL OF THE CONTRACTOR: KEYS ARE TO BE HAND-DELIVERED BY THE LOCKSMITH TO THE OWNER'S REPRESENTATIVE.** This requirement may **ONLY** be waived if written permission is obtained in advance from the Owner.
  - 3. Furnish keys properly tagged and indexed for Owner's use.
  - 4. Provide Owner with factory bitting list.

## 2.05 HARDWARE SCHEDULE

A. Hardware SET 1:		
1-1/2 pr.	IVES 5BB1 HW Full Mortise Hinges	
	5BB1 HW x 4.5 x 4.5 x NRP x SEC	US32D
1	LCN Surface Mounted Closer (180° Swing)	
	LCN 4040XP Push side of door	US32D
1	Southern 10500 Series Lock	
	10572 Lockset, Function: Institutional Lockset	
	(Keyed both sides)	US32D
1	Southern Bolt Keeper Strike	
	500B Strike Plate	US32D

## 3.0 EXECUTION

### 3.01 INSTALLATION

- A. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations, and except as may be otherwise directed by A/E.
- B. Install each hardware item in compliance with the manufacturer's instructions and

recommendations using fully experienced and qualified personnel. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage and reinstallation or application of surface protections with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrate.

- C. Coordinate with door and frame suppliers to obtain door frame hardware installations which are listed by approved agency.
- D. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- E. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- F. Keep knobs suitably covered for protection during construction period.

### 3.02 ADJUST AND CLEAN

- A. Adjust and check each operating item of hardware and each door, to ensure proper operation of function of every unit. Replace units which can not be adjusted to operate freely and smoothly as intended for the application made.
  - 1. Upon completion, door shall latch without forcing and close and latch under the force of the closer.
  - 2. Provide door control equipment as required. Mount equipment to permit maximum door opening, but to prevent contact of the door with building construction or equipment.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Wherever hardware installation is made more than one month before acceptance or occupancy of a space or area, return to the work during the week before acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- D. Instruct Owner's personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.
- E. Approximately six months after the acceptance of hardware in each area, the Installer accompanied by the representative of the latch and lock manufacturer, shall return to the project and readjust each hardware item to restore proper function of doors and hardware. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials or unit installation. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

END OF SECTION 08 71 00

## SECTION 08 80 00 GLAZING

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Extent of glass and glazing work is indicated on drawings and schedules. Work includes:
  - 1. Interior window units.
  - 2. Interior doors.
  - 3. Fire-resistance rated opening protectives.

#### 1.02 RELATED SECTIONS

- A. Refer to Section 08 34 53 Security Doors and Frames

#### 1.03 SYSTEM DESCRIPTION

- A. Provide glass and glazing produced, fabricated and installed to withstand normal thermal movement, wind loading and impact loading (where applicable), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing materials and other defects in the work.
  - 1. Normal thermal movement is defined as that resulting from an ambient temperature range of 120 degrees F and from a consequent temperature range within glass and glass framing members of 180 degrees F.
  - 2. Deterioration of insulating glass is defined as failure of hermetic seal due to other causes than breakage which results in intrusion of dirt or moisture, internal condensation or fogging, deterioration of protected internal glass coating, if any, resulting from seal failure, and any other visual evidence of seal failure or performance.
  - 3. Deterioration of laminated glass is defined as the development of manufacturing defects including edge separation or delamination which materially obstructs vision through glass, yellowing, or hazing.

#### 1.04 QUALITY ASSURANCE

- A. Glazing Standards: Comply with published recommendations of glass product manufacturers and specified organizations, except where more stringent requirements are indicated.
  - 1. Flat Glass Marketing Association (FGMA) "Glazing Manual".
  - 2. Laminated Safety Glass Association (LSGA) "Design Guide".
  - 3. GANA – Glazing Manual
  - 4. GANA – Sealant Manual
- B. Safety Glazing Standard: Where safety glass is indicated or required by authorities

having jurisdiction, provide type of products indicated which comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials.

1. Subject to compliance with requirements, provide safety glass permanently marked with certification label of Safety Glazing Certification Council (SGCC) or other certification agency acceptable to authorities having jurisdiction.
- C. Fire Resistive Glazing Products for Door Assemblies: Products identical to those tested per ASTM E152, labeled and listed by UL or other testing and inspecting agency acceptance to authorities having jurisdiction.
- D. Single Source Responsibility for Glass: Obtain glass from one source.
- E. Single Source Responsibility of Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.
- F. The following standards by the American Society for Testing and Materials (ASTM) apply:
  1. ASTM C1036 – Flat Glass
  2. ASTM C1048 – Heat Treated Flat Glass
  3. ASTM E 2189 –Test Method for Seal Durability of Sealed Insulating Glass Units
  4. ASTM E838 – Cracking, Blistering, Crazing, and Color Changes
  5. ASTM C1422-99 – Standard Specifications for Chemically Strengthened Flat Glass
  6. ASTM C1349-96 – Standard Specification for Architectural Flat Glass Clad Polycarbonate
  7. ASTM F1915-05 – Standard Specification for Test Methods for the Glazing of Detention Facilities
  8. ASTM F-1592-01 – Standard Test Method for Detention Hollow Metal Vision Systems

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Protect glass and glazing materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, temperature changes, of direct exposure to sun, and from other causes.

#### 1.06 PROJECT CONDITIONS

- A. Environmental Conditions: Do not proceed with glazing when ambient and substrate temperatures are outside the limits permitted by glazing material manufacturer or when joint substrates are wet due to rain, frost, condensation or other causes. Install liquid sealants at ambient and substrate temperatures above 40 degrees F.

#### 1.07 SUBMITTALS

- A. Product Data: Submit manufacturer's most recent product literature and technical data including the following minimum requirements;
  1. Product data for each glazing product.

- a. Thickness
  - b. Testing performance and method of tests
  - c. Handling, protection, and cleaning instructions.
  - d. Installation instructions.
2. Installation detail indicating caulks, setting blocks, tapes, and indication of compatibility for each of these with the indicated glazing material.
- B. Samples
1. Submit minimum of two (2) 12"x12" samples of each type of glazing material to be utilized. Samples must be of required thickness and configuration.
  2. Submit cured sealant bead samples of each color sealant to be used.

## 1.08 WARRANTY

- A. Security Glass Warranty: Submit glass manufacturer's written warranty agreeing to furnish replacements for glass units that deteriorate as described above, within a warranty period of five (5) years. Warranty covers deterioration due to normal conditions of use and not to handling, installing, and cleaning practices contrary to glass manufacturer's published instructions.
- B. Fire-Resistance Rated Glazing Warranty: Submit glazing manufacturer's written warranty agreeing to furnish replacements for defective units within a warranty period of five (5) years.

## 2.0 PRODUCTS

### 2.01 MANUFACTURERS

- A. Basis of Design Manufacturer: Subject to compliance with requirements, provide products for the following:
  1. Fire-resistant glazing Manufacturers:
    - a. Global Security Glazing, :
      - i. Inferno Lite Ultra Max 45-SPO19G, 1-9/16" thickness, (45 minutes), UL 9UL, 10C, UL ASTM F 1915, Grade 2 40 Minute Containment.
    - b. Approved Substitution.

### 2.03 FIRE-PROTECTIVE AND FIRE-RESISTANT GLAZING MATERIALS

- A. Thickness; 1-9/16-inch thick, units.
- B. Fire-resistance rating provided: 45 minutes
- C. Light transmission Rating: 85%
- D. Color: optically clear, colorless, and free from visual distortion
- E. Each piece of material is to be labeled with a permanent logo including product name, manufacturer, product testing laboratory, fire rating period, and safety glazing standards.
- F. Provide EPDM tape or other listed flame-resistant gasket material and calcium silicate setting blocks.
- G. All materials are to be strictly shop-produced, with no field cutting allowed.

H. Wired glazing is not acceptable.

## 2.04 MISCELLANEOUS GLAZING MATERIALS

- A. Compatibility: Provide materials with proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.
- C. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.
- D. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass sealant manufacturers for application indicated.
- E. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.
- F. Glazing tape: provide glazing tapes of material, thickness, and width as required for compatibility with glazing type and as recommended by glazing manufacturer.

## 3.0 EXECUTION

### 3.01 EXAMINATION

- A. Examine glass framing, with glazier present, for compliance with the following:
  - 1. Manufacturing and installation tolerances, including those for size, squareness, offsets at corners.
  - 2. Presence and functioning of weep system.
  - 3. Minimum required fall or edge clearances.
  - 4. Effective sealing between joints of glass framing members.
- B. Do not proceed with glazing work until unsatisfactory conditions have been corrected.

### 3.02 GLAZING, GENERAL

- A. Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.
- B. Glazing channel dimensions as indicated in details are intended to provide necessary glass bite glass, minimum edge/face clearances, and adequate sealant thickness, with reasonable tolerances. Adjust as required by job conditions at time of installation.
- C. Protect glass from edge damage during handling and installation.
  - 1. Use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks

so edges are located at top of opening.

2. Remove damaged glass from project and dispose of off-site. Damaged glass is glass units with edge damage or other imperfections of kind that, when installed, weakens glass and impairs performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants.

### 3.03 GLAZING

- A. Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but with edge nearest corner not closer than 6" from corner, unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.
- B. Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8" minimum bite spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.
- C. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.
- D. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- E. Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufactures, to prevent sealant from extruding into glass channel weep systems and from adhering to joints back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.
- F. Force sealants into glazing channels to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- G. Tool exposed surfaces of sealants to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.
- H. Set units in position so etching lines are aligned both vertically and horizontally from pane to pane in one elevation.

### 3.04 PROTECTION AND CLEANING

- A. Store glass in protected, designated area in original containers until installed.
- B. Support glass vertically on setting material capable of holding the glass and distributing the weight evenly over the glass unit. Do not remove levels until the glass has been installed.
- C. Storage conditions shall protect glass and glazing materials from UV exposure, humidity, rain, and adverse temperatures.
- D. Protect exterior glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.
- E. Polycarbonate materials shall have all protective masking removed in all locations

exposed to direct sunlight. After removing factory masking, remask material using poly film taped to frame.

- F. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove immediately by method recommended by glass manufacturer.
- G. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.
- H. Wash on both faces not more than 4 days prior to date schedule for inspections intended to establish date of completion in each area of project. Wash glass by method recommended by glass manufacturer.

END OF SECTION 08 80 00

## SECTION 09 29 00 GYPSUM BOARD

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. Extent of each type of gypsum drywall construction required is indicated on Drawings. This Section includes the following types of gypsum board construction:
  - 1. Steel framing members to receive gypsum board.
  - 2. Gypsum board screw-attached to steel framing and furring members.
  - 3. ALL GYPSUM BOARD PRODUCTS INSTALLED IN THIS PROJECT ARE TO BE ABUSE-RESISTANT AND MOLD AND MOISTURE RESISTANT GYPSUM BOARD.

#### 1.02 SUBMITTALS

- A. Submit product data from manufacturers for each type of product specified.

#### 1.03 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic and other causes. Neatly stack gypsum boards flat to prevent sagging.
- C. Handle gypsum boards to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.

#### 1.04 PROJECT CONDITIONS

- A. Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's recommendations.
- B. For non-adhesive attachment of gypsum board to framing, maintain not less than 40°F. For finishing of gypsum board, maintain not less than 50°F for 48 hours before application and continuously thereafter until drying is complete.
- C. Ventilate building spaces to remove water not required for drying joint treatment materials. Avoid drafts during dry, hot weather to prevent materials from drying too rapidly.

### 2.0 PRODUCTS

#### 2.01 MANUFACTURERS

## 2.02 STEEL FRAMING COMPONENTS FOR SUSPENDED AND FURRED CEILINGS

- A. Provide components which comply with ASTM C 754 and ASTM C 645 for materials and sizes, unless otherwise noted.
  - 1. Gypsum board ceiling shall be supported by minimum 9 gauge wire.

## 2.03 GYPSUM BOARD PRODUCTS

- A. Provide gypsum board types indicated in maximum lengths available to minimize end-to end joints and in thickness indicated. If not otherwise indicated, provide 5/8 inch thickness to comply with ASTM C 840 for application system and support spacing indicated.
- B. ABUSE-RESISTANT, MOLD AND MOISTURE RESISTANT GYPSUM BOARD INTERIOR PANEL; 5/8" thick.

## 2.04 TRIM ACCESSORIES

- A. Corner and edge trim; sheet steel zinc coated by the hot-dip process corner beads, edge trim and control joints complying with ASTM C 1047 requirements.
  - 1. Edge trim shapes; ASTM C 1047, Fig. 1, "L" Bead similar to Unimast Inc. No. 200-B, unless otherwise indicated.

## 2.05 GYPSUM BOARD JOINT TREATMENT MATERIALS

- A. Provide materials complying with ASTM C 475, ASTM C 84, and recommendations of manufacturer of both gypsum board and joint treatment materials for the application indicated.
- B. Joint tape; paper reinforcing tape, unless otherwise indicated.
- C. Setting-type joint compounds; factory-prepackaged, job-mixed, chemical-hardening powder products formulated for embedding tape for first coat over fasteners and flanges of corner beads and edge trim which develop greatest bond strength and crack resistance and is compatible with other joint compounds applied over it. Provide proper exterior compounds at exterior grade gypsum boards.
- D. Drying-type joint compounds; factory-prepackaged vinyl-based products complying with the following requirements for formulation and intended use. Provide either ready-mix or job-mixed formulations as follows:
  - 1. Ready-mix formulation; factory-premixed product.
  - 2. Job-mixed formulation; powder product for mixing with water at Project site.
  - 3. Topping compound formulated for use as topping compound.
  - 4. Provide proper exterior compounds at exterior grade gypsum boards.

## 2.06 MISCELLANEOUS MATERIALS

- A. Provide auxiliary materials for gypsum drywall construction which comply with referenced standards and the recommendations of the manufacturer of the gypsum

board.

B. Gypsum board screws; ASTM C 1002.

### 3.0 EXECUTION

#### 3.01 EXAMINATION

- A. Examine substrates to which drywall construction attaches or abuts, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of drywall construction. Do not proceed with installation until unsatisfactory conditions have been corrected.

#### 3.02 PREPARATION

- A. Coordinate installation of ceiling suspension system with installation of overhead structural systems to ensure inserts and other structural anchorage provisions have been installed to receive ceiling anchors in a manner that will develop their full strength and at spacing required to support ceiling.
  - 1. Furnish inserts and other anchoring devices indicated, to other trades for installation well in advance of time needed for coordination with other construction.

#### 3.03 INSTALLATION OF STEEL FRAMING FOR SUSPENDED CEILINGS

- A. Secure hangers to structural support by connecting directly to structure.
  - 1. Provide secondary framing where needed to facilitate installation.
- B. Do not connect or suspend steel framing from ducts, pipes or conduit.
- C. Keep hangers and braces 2" clear of ducts, pipes and conduits.
- D. Sway-brace suspended steel framing with hangers used for support.
- E. Install suspended steel framing components in sizes and at spacings indicated, but not less than that required by referenced steel framing installation standard. Balance splay as required.
- F. Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically joint main beam and cross furring members to each other and butt-cut to fit into perimeter wall track. Do not mechanically attach to perimeter wall members to allow independent movement of ceiling.

#### 3.04 APPLICATION AND FINISHING OF GYPSUM BOARD, GENERAL

- A. Gypsum board application and finishing standard; install and finish gypsum board to comply with ASTM C 840.
- B. Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 24 inches in alternate courses of board.
- C. Install ceiling boards across framing in a manner to minimize the number of end-butt joints, and which avoids end joints in the central area of each ceiling. Stagger end joints at least 24 inches.

- D. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16 inch open space between boards. Do not force into place.
- E. Locate either edge or end joints over supports, except in horizontal applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
- F. Attach gypsum board to supplementary framing and blocking provided for additional support at openings and cutouts.
- G. Form control joints and expansion joints at locations indicated, with space between edges of boards, prepared to receive trim accessories.
- H. Space fasteners in gypsum boards in accordance with referenced gypsum board application and finishing standard and manufacturer's recommendations.

### 3.05 METHODS OF GYPSUM BOARD APPLICATION

- A. Screw apply gypsum boards to supports.

### 3.06 INSTALLATION OF TRIM ACCESSORIES

- A. Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges to comply with manufacturer's recommendations.
- B. Attach to metal framing with screws. Clinch attachment to wall board not acceptable.
- C. Install corner beads at external corners.
- D. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed, except where plastic trim is required. Provide type with face flange to receive joint compound.
  - 1. Install "L" bead where edge trim can only be installed after gypsum board is installed.

### 3.07 FINISHING OF DRYWALL

- A. Apply joint treatment at gypsum board joints (both directions); flanges of corner bead, edge trim, and control joints; penetrations; fastener heads, surface defects and elsewhere as required to prepare work for decoration.
- B. Apply joint tape at joints between gypsum boards, except where trim accessories are indicated.
- C. Finish gypsum wall board by applying the following joint compounds in 3 coats (not including prefill of openings in base), and sand between coats and after last coat:
  - 1. Embedding and first coat; ready-mix or job mixed setting type joint or taping compound.
  - 2. Fill (second) coat; ready-mix or job mixed topping compound.

3. Finish (third) coat; ready-mix or job mixed topping compound.

### 3.08 PROTECTION

- A. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures gypsum drywall construction being without damage or deterioration at time of Completion.

END OF SECTION 09 29 00

## SECTION 09 67 23 RESINOUS FLOORING

### 1.0 GENERAL

#### 1.01 SUMMARY

A. This section includes the following:

1. Provide epoxy resinous seamless flooring system.
2. Provide 4" high integral cove base where indicated.

B. Related Sections include the following:

1. Cast-In-Place Concrete, Section 03 30 00
2. Concrete Topping, Section 03 53 00
3. Epoxy Coating, Section 09 96 56 for Epoxy Wall and Ceiling Coating

#### 1.02 SYSTEM DESCRIPTION

- A. The work shall consist of preparation of the substrate, the furnishing and application of a cementitious urethane based self-leveling seamless flooring system with decorative quartz aggregate broadcast and Epoxy broadcast and topcoats.
- B. The system shall have the color and texture as specified by the Owner with a minimal thickness of 1/4-inch. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
- C. Cove base (if required) to be applied where noted on plans and per manufacturer's standard unless otherwise noted.

#### 1.03 SUBMITTALS

- A. Product Data: Latest edition of manufacturer's literature including performance data and installation procedures.
- B. Manufacturer's Material Safety Data Sheet (MSDS) for each product being used.
- C. Samples: Submit 3 x 3 inch sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.
- D. Manufacturer's complete line for colors and finishes.
- E. Submit two copies of written instructions for recommended periodic maintenance.

#### 1.04 QUALITY ASSURANCE

- A. The Manufacturer shall have a minimum of 5 years experience in the production, sales, and technical support of epoxy and urethane industrial flooring and related materials.
- B. The Applicator shall have experience in installation of the flooring system as confirmed and certified by the manufacturer in all phases of surface preparation and application of the product specified. The certified contractor shall have a minimum (5) projects, successfully installed in Ohio Department of Corrections. Provide list of (5) projects performed within last three years of

similar type, size and complexity. Submit project names, addresses, contacts and phone numbers for each project to validate references and applicators capabilities.

- C. No requests for substitutions shall be considered that would change the generic type of the specified system.
- D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), and local Health Department.
- E. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarify this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.
- F. Provide materials and accessories manufactured by a single manufacturer.
- G. Provide a full and complete system in an area indicated. Field sample installation shall demonstrate color, texture, sheen, and uniformity of application. After field sample is accepted, this area will be used for evaluation of the remaining portion of work.

#### 1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

##### A. Packing and Shipping:

- 1. All components of the system shall be delivered to the site in the manufacturers packing, clearly identified with the product type and batch number.

##### B. Storage and Protection

- 1. The Applicator shall be provided with a dry storage area for all components. The area shall be between 60 degree F and 85 degree F, dry, out of direct sunlight and in accordance with the Manufacturer' s recommendation and relevant health and safety regulations.
- 2. Copies of Material Data Sheet (MSDS) for all components shall be kept on site for review by the A/E and other professionals.

##### C. Waste Disposal

- 1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

#### 1.06 PROJECT CONDITIONS

##### A. Site Requirements:

- 1. The Applicator shall ensure that adequate ventilation is available for the work area. This shall include the use of Manufactures approved fans, smooth bore tubing and closure of the work area.
- 2. The Applicator shall be supplied with adequate lighting to the final lighting level during the preparation and installation of the system.

##### B. Conditions of new concrete at areas to be patched and coated with cementitious urethane material.

- 1. Concrete shall be moisture cured for a minimum of 3 days and have fully cured a minimum of

5 days in accordance with ACI-308 prior to the application of the coating system pending moisture test.

2. Concrete shall have a flat rubbed finish, float or light steel trowel finish (a hard trowel finish is neither necessary or desirable).
  3. Sealers and curing agents should not be used.
  4. Concrete should have a minimum design strength of 3,500 psi. and a maximum water/cement ratio of 0.45.
  5. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system.
- C. Safety Requirements
1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.
  2. "No Smoking" signs shall be posted at the entrances to the work area.
  3. Non-related personnel in the work area shall be kept to a minimum.

## 1.05 WARRANTY

- A. Provide written warranty signed by the manufacturer agreeing to repair/replace defects resulting from defective material or workmanship. Warranty period to be five (5) years from date of final completion.

## 2.0 PRODUCTS

### 2.01 MANUFACTURERS

- A. Manufacturer; Manufacturer; Basis of Design Manufacturer, GenesisCFS, 7349 Ravenna Ave, Louisville, Ohio, Phone: (614) 877-7363. ( Subject to compliance with requirements, the following Other manufacturers are acceptable:

1. Selby Ucrete
2. Stonhard
3. American Industrial
4. Neogard

- B. Manufacturer of Approved System shall be single source and made in USA.

### 2.02 FLOORING SYSTEM

- A. Epoxy resinous seamless flooring: GenesisCFS, Inc., Hybrid-UC (self leveling broadcast), epoxy/aliphatic
1. System Materials:
    - a. Basecoat: GenesisCFS, Gen-Crete resin, hardener and SL aggregate.
    - b. The broadcast aggregate shall be GenesisCFS, Inc. Q28 or Q11 quartz aggregate, Micro Chips.
    - c. Broadcast: GenesisCFS, Inc. GenChemUV, 100% solid epoxy based two-component resin.
    - d. Grout coat: GenesisCFS, Inc. GenChemUV, 100% solid epoxy based two-component resin.

- e. Top coat: GenChemUV, GenThane P-Flex. Apiphatic, flexible polyaspartic two-component resin.
- 2. Patch Materials:
  - a. Shallow Fill and Patching: Use GenesisCFS, Inc. GenQuickPatch (up to 1/4-inch).
  - b. Deep Fill and Sloping Material (over 1/4-inch): Use GenesisCFS, Gen-Crete.

### 2.03 PRODUCT REQUIREMENTS

A. Basecoat	GenCrete
1. Percent Reactive	100%
2. VOC	0 g/L
3. Bond Strength to Concrete ASTM D 4541	400 psi, substrates fails
4. Compressive Strength, ASTM C579	7,250 psi
5. Tensile Strength, ASTM D 638	750 psi
6. Flexural Strength ASTM D790	4,400 psi
7. Impact Resistance @ 125 mils, MIL D-3134	160 inch lbs
No visible damage or deterioration	
B. Broadcast Coat	GenChemUV
1. Percent Reactive	100%
2. VOC	0 g/L
3. Water Absorption, ASTM C 413	0.1%
4. Tensile Strength, ASTM D 638-77a	7100psi
5. Flexural Strength, ASTM D 790-71	12,500 psi
6. Flammability ASTM D-635	Self-Extinguishing
7. Flame Spread/NFPA 101 ASTM E-84	Class A
C. Topcoat	GenThane P-Flex
1. VOC (EPA method 24)	2 g/L Zero Reportable HAPS
2. 60 Degree Gloss ASTM D523	75 +/- 5
3. Mixed Viscosity, (Brookfield 25°C)	750-950 cps typical
4. Tensile Strength, ASTM D 638	7000psi
5. Hardness, ASTM D-2440	52 (Shore D) @ 7 day cure 95.8 (Shore A) @ 7 day cure
6. Solid Content ASTM D2697	Self-Extinguishing
7. Full Chemical resistance	7 days
8. Open for Light Traffic	24 hours @ 75 degrees F

### 3.0 EXECUTION

#### 3.01 EXAMINATION

- A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
  - 1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

#### 3.02 PREPARATION

##### A. General

- 1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, moss, algae growth, laitance, friable mater, dirt, and bituminous products.
- 2. Testing: Perform tests recommended by manufacturer and as follows:
  - a. Perform relative humidity tests using is situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 95% relative humidity level measurement.
  - b. If the relative humidity exceeds 95% then the Owner and/or A/E shall be notified and advised of additional cost for the possible installation of a vapor mitigation system that has been approved bu the manufacturer or other means to lower the value to the acceptable limit.
  - c. Perform field test or lab test for chloride-ion content in concrete per ASTM C1543-10a. Maximum percent of water-soluble chloride ion content by weight of cement shall not exceed .15 according to ACI318-83. Apply materials to brings salt into solution and flush with appropriate water pressure. Repeat test and proceed with flooring installation only after substrate shows acceptable level of chloride ions.
- 3. Mechanical surface preparation
  - a. Diamond grind all surfaces to receive flooring system with direct drive floor grinder utilizing a 25 grit diamond tool that grinds to within 1/8-inch of wall (Werkmaster or equal). All surface and embedded accumulation of paint, toppings hardened concrete layers, curing materials, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concretesurface having a minimum profile of CSP 2-3 as described by the International Concrete Repair Institute and concrete surfaces shall have a maximum deviation of 1/8-inch using a 10' straightedge placed anywhere on the surface.
  - b. Dust extraction system and separator for grinding:  
Heavy-duty industrial HEPA filtration vacuum system, properly maintained, suitable for extracting and containing large quantities of fine concrete dust (minimum 350 CFM air flow) in conjunction with manufacturer recommended pre-separator.

- c. Floor areas inaccessible to the grinding machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, brush hammers, or other suitable equipment.
  - d. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum ¼-inch key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
  - e. Cracks and joints (non-moving) greater than 1/8-inch wide are to be chiseled or chipped-out and repaired and filled per manufacturers recommendations and ground flat (less than 1/8-inch in 10 feet.)
4. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch with resinous material per manufacturer recommendations.
- B. Test moisture content of concrete slab in accordance with ASTM D4263 Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method. Perform test section centered over intersection of sawcut joints. Close off joints at test edge by inserting vertical closed cell backer rod in joints (to prevent moisture from adjacent areas). Allow plastic to remain in place for a minimum of 24 hours. Do not proceed with installation if dampness is present or concrete has darkened under the plastic.
- C. Clean and remove foreign materials and other contaminants which could impede adhesion of material. Perform work in accordance with manufacturer's instructions.
- D. Grind down ridges and sharp projections. Fill low spots and track marks with filler.
- E. Detailing shall be done at all moving cracks and joints to prevent cracking to the flooring. Working cracks, expansion joints and control joints shall be detailed by either keying and installation of non-reinforced flexible joint compound or keying and installation of metal reinforcing mesh and the specified flooring resins and aggregates.
- F. Saw cut concrete at perimeter termination conditions to key floor system into slab. Cut lines straight and true. Keying shall be performed at all flooring terminations to a nominal width of 1-1/2 inch and a nominal depth of 1 inch. Keying shall be performed at all vertical surfaces to a nominal width of 1 inch and a nominal depth of 1 inch.
- G. Vacuum areas to remove dust and debris particles as required to provide a prepared and clean surface ready to receive floor system.
- H. Have manufacturer's technical service representative examine prepared conditions. Correct defective areas as indicated by manufacturer's representative prior to application of floor system.

### 3.03 APPLICATION

- A. Apply each component of resinous flooring system in compliance with manufacturer's directions to produce a uniform monolithic wearing surface of thickness indicated, uninterrupted except at divider strips, sawn joints or other types of joints (if any), indicated or required.
- B. The following is a brief application summary:
  - 1. Layer 1, Primer coat; a resin layer shall be spread and worked into the concrete

surface, cracks, keys and detailed areas for a complete seal. Aggregate may be sprinkled lightly over the cured resin prior to application of Layer 2.

2. Layers 2 and 3, Sand coats; resin layers shall be applied over the entire area, aggregate shall be distributed evenly over the uncured resin to a dry appearance.
3. Layer 4, Colored aggregate coats; resin layers shall be applied over the entire area, aggregate shall be distributed evenly over the uncured resin to a dry appearance.
4. Layer 5, Glaze coats; resin layer shall be applied over the entire area in sufficient volume to anchor the aggregate and seal the floor. Provide aggregate to create a smooth floor. Sanding or grinding shall be done prior to applying resin. Install one additional glaze coat.
5. Provide transition strip materials at locations where resinous flooring material is of a different thickness than the abutting flooring materials.
6. At locations where resinous integral base is indicated at sealed concrete floor slab, provide straight and true termination, provide tooled edges, and provide radiused 1/8" lip. Concave internal radius is required at all junctures of wall and floor.
7. Provide 24" long mock-up of cove base configuration for approval by the A/E prior to proceeding with installation at other locations. If approved, the mock-up will become the standard for installation of all other locations and may become part of the finished work when complete.

### 3.04 FIELD QUALITY CONTROL

A. Manufacturer's authorized technical service representative shall attend the pre-installation conference and be on site during critical times during surface preparation and installation as required to ensure optimal performance of system. Manufacturer's representative shall be authorized by the manufacturer to make decisions and direct installer.

#### B. Tests, Inspections

1. The following tests shall be conducted by the Applicator:
  - a. Temperature
    1. Air, substrate temperatures and if applicable, dew point.
  - b. Coverage Rates
    2. Rates for all layers shall be monitored by checking quantity of material used against the area covered.
  - c. Slip resistance
    1. After full cure, system shall be tested by certified installer at random points (minimum 1000 sft area) with slip meter ASM 825A.
    2. Coefficient of friction to be .7 or greater.

### 3.05 CLEANING AND PROTECTION

A. Prohibit traffic until flooring system has thoroughly cured. Protect flooring until final completion.

- B. Cure flooring material in compliance with manufactures directions, taking care to prevent their contamination during the stages of application and prior completion of the curing process.
- C. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

END OF SECTION 09 67 23

## SECTION 09 90 00 PAINTING AND COATING

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. This Section includes surface preparation, painting, and finishing of exposed interior items and surfaces. Work includes:
  - 1. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.
  - 2. Labor, materials, scaffolding, tools, and equipment necessary to complete painting, filling, and sealing requirements of the project as indicated on the drawings and as specified.
- B. Interior items include, but are not limited to:
  - 1. Refer to Room Finish Schedule, remarks and notes on Architectural Drawings for general areas requiring painting. Areas indicated as exposed shall be fully painted.
  - 2. Exposed lintels above windows and doors.
  - 6. Finishes behind grilles, registers, and diffusers which might present a reflective type appearance.
- C. Paint exposed surfaces designated in Room Finish Schedule, except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the A/E will select from standard colors or finishes available.
- D. Related Sections include the following:
  - 1. Security Doors and Frames, Section 08 34 53 for Security Doors and Frames to be shop prime painted.
  - 2. Access Doors, Section 08 31 00 for Access Doors to be shop prime painted.
  - 3. Resinous flooring, Section 09 67 23 for Epoxy Flooring and Base Coatings
  - 4. Epoxy Coating, Section 09 96 56 for Epoxy Wall and Ceiling Coatings

#### 1.02 SUBMITTALS

- A. Submit product data, manufacturer's technical information, label analysis, and application instructions for each material proposed for use.
  - 1. List each material and cross-reference the specific coating and finish system and application. Identify each material by the manufacturer's catalog number and general classification.
- B. Submit color samples.

#### 1.03 QUALITY ASSURANCE

- A. Provide primers and undercoat paint produced by same manufacturer as finish coat.
- B. Provide manufacturer's best quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary names used to designate colors or materials are not intended to imply that products named are required or to exclude products of other manufacturers.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
  1. Product name or title of material.
  2. Product description (generic classification or binder type).
  3. Federal Specification number, if applicable.
  4. Manufacturer's stock number and date of manufacturer.
  5. Contents by volume, for pigment and vehicle constituents.
  6. Thinning instructions.
  7. Application instructions.
  8. Color name and number.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
  1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

#### 1.05 PROJECT CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 degrees F and 90 degrees F.
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 degrees F and 95 degrees F.
- C. Do not apply paint in snow, rain, fog, or mist, when the relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above dew point, or to damp or wet surfaces.
  1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the manufacturer during application and drying periods.

### 2.0 PRODUCTS

#### 2.01 MANUFACTURERS

- A. Manufacturer: Equal products by the following manufacturers are also acceptable provided that, in the opinion of the A/E, appearance and manufacturing quality, meet specified standards.
  1. Benjamin Moore and Co.
  2. Coronado.

3. Pratt and Lambert.
4. Martin Senour.
5. Porter Paint Co.
6. The Sherwin-Williams Co.
7. Duron.

## 2.03 INTERIOR PAINTING SCHEDULE

- A Metal – Ferrous (Semi-Gloss): (Alkyd Enamel System, Maximum VOC content 450 grams/liter)
1. Primer: Modified Alkyd Resin Primer, 3 mils DFT/coat.
  2. Finish Coats: Alkyd Enamel, Semi-Gloss (40-50 units at 60 degrees F.), 3.0 mils DFT/coat: two coats.
  3. Surfaces: Ferrous metal surfaces listed to be painted, including; access doors, steel lintels, and exposed structural steel framing.
  4. Hollow metal doors, and door frames are to be shop primed only.  
See Section 08 11 13 Hollow Metal Doors and Frames. (See finish schedule on drawings.)

## 3.0 EXECUTION

### 3.01 EXAMINATION

- A. Examine substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory conditions have been corrected.
1. Start of painting constitutes Applicator's acceptance of surfaces and conditions within a particular area.

### 3.02 PREPARATION

- A. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.
1. Clean surfaces before applying paint. Remove oil and grease before cleaning. Schedule cleaning and painting so dust and other containments from the cleaning process will not fall on wet, newly painted surfaces.
- B. Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.
1. Cementitious Materials: Prepare concrete unit masonry surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze.
  2. Ferrous Metals: Clean non-galvanized ferrous metal surfaces that are not shop

coated; remove oil, grease, dirt, loose mill scale; all foreign substances. Use solvent or mechanical cleaning methods: comply with SSPC recommendations.

- a. Touch up bare areas and damaged shop-applied prime coats. Wire-brush, clean with paint manufacturer recommended solvents, and touch up with the same primer as the shop coat.
- C. Materials Preparation: Carefully mix and prepare paint materials in accordance with manufacturer's directions.
1. Maintain containers used in mixing and applications of paint in a clean condition, free of foreign materials and residue.
  2. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
  3. Use only paint manufacturer approved thinners. Comply with manufacturer's recommended limits.

### 3.03 APPLICATION

- A. Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
- B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
  1. The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even, smooth surface in accordance with the manufacturer's directions.
  2. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color and appearance. Take special care to ensure that all edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.
  3. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convactor covers, covers for finned tube radiation, grilles, and similar components are in place. Extend coatings in these areas as required to maintain the system integrity and provide desired protection.
  4. Paint surfaces behind equipment and furniture same as similar exposed surfaces.
  5. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, nonspecular black paint.
  6. Sand lightly between each succeeding enamel coat.
  7. Omit primer on metal surfaces that have been shop-primed and touch up painted.
- C. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
  1. Allow sufficient time between successive coats to permit proper drying. Do not

recoat until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure and where application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

2. Minimum Coating Thickness: Apply materials at not less than the manufacturer's recommended spreading rate.
- D. Block Fillers: Apply block fillers to concrete masonry units at a rate to ensure complete coverage with pores filled.
- E. Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.
- F. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

### 3.04 CLEANING

- A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
- B. Upon completion of painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping, using care not to scratch or damage adjacent finished surfaces.

### 3.05 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting.
- B. Provide "wet paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.
  1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 09 90 00

## SECTION 09 96 56 EPOXY COATING

### 1.0 GENERAL

#### 1.01 SUMMARY

A. This section includes the following:

1. Provide epoxy wall and ceiling coating system as shown on drawings and in schedules.

B. Related Sections include the following:

1. Concrete Unit Masonry, Section 04 22 00
2. Gypsum Board, Section 09 29 00
3. Resinous flooring, Section 09 67 23 for Epoxy Flooring and Base Coatings

#### 1.02 SYSTEM DESCRIPTION

- A. The work shall consist of preparation of the substrate, the furnishing and application of an epoxy based wall and ceiling coating system, with decorative colored chips and urethane topcoats. The system shall have the color and texture as specified by the Owner with a nominal thickness of 55-60 mils. It shall be applied to the prepared areas as defined in the plans strictly in accordance with the Manufacturers recommendations.

#### 1.03 SUBMITTALS

- A. Product Data: Latest edition of manufacturer's literature including performance data and installation procedures.
- B. Manufacturer's Material Safety Data Sheet (MSDS) for each product being used.
- C. Samples: Submit 3 x 3 inch sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.
- D. Manufacturer's complete line for colors and finishes.
- E. Submit two copies of written instructions for recommended periodic maintenance.

#### 1.04 QUALITY ASSURANCE

- A. The Manufacturer shall have a minimum of 5 years experience in the production, sales, and technical support of epoxy and urethane industrial flooring and related materials.
- B. The Applicator shall have experience in installation of the flooring system as confirmed and certified by the manufacturer in all phases of surface preparation and application of the product specified. The certified contractor shall have a minimum (5) projects, successfully installed in Ohio Department of Corrections. Provide list of (5) projects performed within last three years of similar type, size and complexity. Submit project names, addresses, contacts and phone numbers for each project to validate references and applicators capabilities.
- C. No requests for substitutions shall be considered that would change the generic type of the specified system.

- D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), and local Health Department.
- E. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarify this specification, application procedure, quality control, inspection and acceptance criteria and production schedule.
- F. Provide materials and accessories manufactured by a single manufacturer.
- G. Provide a full and complete system in an area indicated. Field sample installation shall demonstrate color, texture, sheen, and uniformity of application. After field sample is accepted, this area will be used for evaluation of the remaining portion of work.

#### 1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping:
  - 1. All components of the system shall be delivered to the site in the manufacturers packing, clearly identified with the product type and batch number.
- B. Storage and Protection
  - 1. The Applicator shall be provided with a dry storage area for all components. The area shall be between 60 degree F and 85 degree F, dry, out of direct sunlight and in accordance with the Manufacturer' s recommendation and relevant health and safety regulations.
  - 2. Copies of Material Data Sheet (MSDS) for all components shall be kept on site for review by the A/E and other professionals.
- C. Waste Disposal
  - 1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

#### 1.06 PROJECT CONDITIONS

- A. Site Requirements:
  - 1. The Applicator shall ensure that adequate ventilation is available for the work area. This shall include the use of Manufactures approved fans, smooth bore tubing and closure of the work area.
  - 2. The Applicator shall be supplied with adequate lighting to the final lighting level during the preparation and installation of the system.
- B. Conditions of substrate to be coated with epoxy material.
  - 1. Concrete shall be moisture cured for a minimum of 3 days and have fully cured a minimum of 28 days in accordance with ACI-308 prior to the application of the coating system pending moisture test.
  - 2. Block wall mortar joints have cured no less than 7 days under good conditions.
  - 3. Sealers and curing agents should not be used.

4. Drywall shall be completely clean and free of any oils, soap residue, and gypsum dust and prepared to a #4 to # #5

C. Safety Requirements

1. All open flames and spark-producing equipment shall be removed from the work area prior to commencement of application.
2. “No Smoking” signs shall be posted at the entrances to the work area.
3. Non-related personnel in the work area shall be kept to a minimum.

## 1.05 WARRANTY

- A. Provide written warranty signed by the manufacturer agreeing to repair/replace defects resulting from defective material or workmanship. Warranty period to be five (5) years from date of final completion.

## 2.0 PRODUCTS

### 2.01 MANUFACTURERS

- A. Manufacturer; Basis of Design Manufacturer, GenesisCFS, 7349 Ravenna Ave, Louisville, Ohio, Phone: (614) 877-7363. ( Subject to compliance with requirements, the following other manufacturers are acceptable:
  1. Selby Ucrete
  2. Stonhard
  3. American Industrial
  4. Neogard
- B. Manufacturer of Approved System shall be single source and made in USA.

### 2.02 COATING

- A. Epoxy resinous seamless flooring: GensisCFS, Inc. - wall system, epoxy with polyaspartic topcoat.
  1. System Materials:
    - a. Prime Coat: Gen-Wall Block Filler..
    - b. Body Coat: GensisCFS Gen-Wall Pigmented resin and hardener.
    - c. Topcoats: GensisCFS, Inc. GenChemUV, Gen-Thane P-50 resin and hardener.
  2. Patch Materials:
    - a. Shallow Fill and Patching: Use GenesisCFS, Inc. GenQuickPatch.

## 2.03 PRODUCT REQUIREMENTS

### A. Filler Coat

1. Compressive Strength:
2. Compressive Modulus:
3. Bond Strength:
4. Tensile Strength:
5. Tensile Modulus:
6. Tensile Elongation:
7. Flexural Strength:
8. Flexural Modulus:
9. Abrasion Resistance:
  
10. Flammability:
  
11. Water Absorption:
12. Heat Resistance Limitation:
  
13. Solids Content (%):
14. Hardness, ASTM D-2440
15. VOC

### Gen-Wall Block Filler

- 11,700 psi (ASTM D-695-77)  
1.70 x 10<sup>5</sup> psi (ASTM D-695-77)  
>400 psi (100% concrete failure)  
3,900 psi (ASTM D-638-77a)  
4.4 x 10<sup>4</sup> psi (ASTM D-638-77a)  
2.0% (ASTM D-790-71)  
10,400 psi (ASTM D790-71)  
1.8 x 10<sup>6</sup> psi (ASTM D790-71)  
0.03 gm/1000 revolutions (ASTM D-4060, Taber Abrader) (CS-17 wheel, 1,000 gm Load)  
Self-Extinguishing ASTM D-635 Extent of-burning 0.25 inches max.  
0.1% (ASTM C-413)  
140° F/60° C (for continuous exposure)  
200° F/93°C (for intermittent spills)  
100% (ASTM D-2697)  
75-80 (Shore D)  
0 g/L (EPAMethod 24)

### B. Body Coat

1. Compressive Strength:
2. Compressive Modulus:
3. Tensile Strength:
5. Tensile Modulus:
6. Tensile Elongation:
- 7.. Flexural Strength:
8. Flexural Modulus:
9. Bond Strength:
9. Abrasion Resistance:
  
10. Flammability:
  
11. Water Absorption:
12. Heat Resistance Limitation:
  
13. Solids Content (%):
14. Hardness, ASTM D-2440
15. VOC

### Gen-Wall Sealer

- 11,800 psi (ASTM D-695-77)  
1.95 x 10<sup>5</sup> psi (ASTM D-695-77)  
7,100psi (ASTM D 638-77a)  
3.6 x 10<sup>4</sup> psi (ASTM D-638-77a)  
10.7% (ASTM D-638-77a)  
12,500 psi (ASTM D 790-71)  
3.7 x 10<sup>5</sup> psi (ASTM D790-71)  
>400 psi (100% concrete failure)  
0.04 gm/1000 revolutions (ASTM D-4060, Taber Abrader) (CS-17 wheel, 1,000 gm Load.)  
Self-Extinguishing (ASTM D-635) extent of burning 0.25-inches max.  
0.1% (ASTM C-413)  
140° F/60° C (for continuous exposure)  
200° F/93°C (for intermittent spills)  
100% (ASTM D-2697)  
75-80 (Shore D)  
0 g/L (EPAMethod 24)

### C. Topcoat

Gen-Thane P-50

- |                            |                          |
|----------------------------|--------------------------|
| 1. Solids Content (%):     | 85% (ASTM D-2697)        |
| 2. Hardness, ASTM D-2440:  | 70 (Shore D)             |
| 3. VOC:                    | 0.79 g/L (EPA method 24) |
| 4. Application Temps:      | 50° - 90° F              |
| 5. Through-Cure            | 2.5 – 3 hours @ 75° F    |
| 6. Open for Light Traffic: | 24 hours @ 75° F         |

## 3.0 EXECUTION

### 3.01 EXAMINATION

- A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
1. Verify that substrates and conditions are satisfactory for installation and comply with requirements specified.

### 3.02 PREPARATION

#### A. General

1. New and existing concrete surfaces shall be free of oil, grease, curing compounds, moss, algae growth, laitance, friable mater, dirt, and bituminous products.
2. Testing: Perform tests recommended by manufacturer and as follows:
  - a. Perform relative humidity tests using is situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 95% relative humidity level measurement.
  - b. If the relative humidity exceeds 95% then the Owner and/or A/E shall be notified and advised of additional cost for the possible installation of a vapor mitigation system that has been approved bu the manufacturer or other means to lower the value to the acceptable limit.
  - c. Perform field test or lab test for chloride-ion content in concrete per ASTM C1543-10a. Maximum percent of water-soluble chloride ion content by weight of cement shall not exceed .15 according to ACI318-83. Apply materials to brings salt into solution and flush with appropriate water pressure. Repeat test and proceed with flooring installation only after substrate shows acceptable level of chloride ions.
3. Mechanical surface preparation
  - a. Diamond grind all surfaces to receive flooring system with direct drive floor grinder utilizing a 25 grit diamond tool that grinds to within 1/8-inch of wall (Werkmaster or equal). All surface and embedded accumulation of paint, toppings hardened concrete layers, curing materials, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concretesurface having a

minimum profile of CSP 2-3 as described by the International Concrete Repair Institute and concrete surfaces shall have a maximum deviation of 1/8-inch using a 10' straightedge placed anywhere on the surface.

- b. Dust extraction system and separator for grinding:  
Heavy-duty industrial HEPA filtration vacuum system, properly maintained, suitable for extracting and containing large quantities of fine concrete dust (minimum 350 CFM air flow) in conjunction with manufacturer recommended pre-separator.
  - c. Floor areas inaccessible to the grinding machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, brush hammers, or other suitable equipment.
  - d. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/4-inch key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
  - e. Cracks and joints (non-moving) greater than 1/8-inch wide are to be chiseled or chipped-out and repaired and filled per manufacturers recommendations and ground flat (less than 1/8-inch in 10 feet.)
4. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch with resinous material per manufacturer recommendations.
- B. Test moisture content of concrete slab in accordance with ASTM D4263 Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.  
Perform test section centered over intersection of sawcut joints. Close off joints at test edge by inserting vertical closed cell backer rod in joints (to prevent moisture from adjacent areas). Allow plastic to remain in place for a minimum of 24 hours. Do not proceed with installation if dampness is present or concrete has darkened under the plastic.
- C. Clean and remove foreign materials and other contaminants which could impede adhesion of material. Perform work in accordance with manufacturer's instructions.
- D. Grind down ridges and sharp projections. Fill low spots and track marks with filler.
- E. Detailing shall be done at all moving cracks and joints to prevent cracking to the flooring. Working cracks, expansion joints and control joints shall be detailed by either keying and installation of non-reinforced flexible joint compound or keying and installation of metal reinforcing mesh and the specified flooring resins and aggregates.
- F. Saw cut concrete at perimeter termination conditions to key floor system into slab.  
Cut lines straight and true. Keying shall be performed at all flooring terminations to a nominal width of 1-1/2 inch and a nominal depth of 1 inch. Keying shall be performed at all vertical surfaces to a nominal width of 1 inch and a nominal depth of 1 inch.
- G. Vacuum areas to remove dust and debris particles as required to provide a prepared and clean surface ready to receive floor system.
- H. Have manufacturer's technical service representative examine prepared conditions.  
Correct defective areas as indicated by manufacturer's representative prior to application of floor system.

### 3.03 APPLICATION

#### A. General

1. New and existing concrete surfaces shall be free of oil, grease, curing, compounds, loose particles, moss, algae growth, laitance, friable matter, and dirt.
2. There shall be no visible moisture present on the surface at the time of application of the system.
3. Remove loose mortar spatter , joint compounds etc.
4. Create a surface profile on concrete with sandblasting apparatus and/or diamond grinders.
5. Concrete masonry block shall be clean, dry and coated with a high solids block filler.

#### B. The system shall be applied in seven distinct steps as listed below:

1. Substrate preparation.
2. Priming
3. Filler coat with nylon mesh.
4. Broadcast coats application with chip broadcast.
5. Second broadcast coat application with chip broadcast.
6. Grout coat application.
7. Topcoat applications

#### C. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the manufacturers recommendations.

#### D. The system shall follow the contour of the substrate.

#### E. A neat finish with well-defined boundaries and straight edge shall be provided by the Applicator.

#### F. Priming:

1. GEN-WALL BLOCK FILLER is recommended to fill any pores in the substrate when applying over concrete or concrete block walls. When applying over sheet roc, use GEN-POXI Primer. This will prevent the base coat from soaking into the sheet rock. Apply field pigmented GEN-WALL BLOCK FILLER by brush/rollerat approximately 12 mils (125 sq. ft. per gallon.)

#### G. Body Coat

1. Apply one or two successive coats of fields pigmented CHEM-WALL SEALER at approximately 8-10 mils per coat (150-200 sq. ft. per gallon per coat.) Sand and remove sanding dust between coats as needed.

#### H. Topcoats

1. GEN-THANE P50 apply one coats at approximately 10 mils per coat (150 sq. ft. / gal.)  
A second coat may be required.

### 3.04 FIELD QUALITY CONTROL

- A. Manufacturer's authorized technical service representative shall attend the pre-installation conference and be on site during critical times during surface preparation and installation as required to ensure optimal performance of system. Manufacturer's representative shall be authorized by the manufacturer to make decisions and direct installer.
- B. Tests, Inspections
  - 1. The following tests shall be conducted by the Applicator:
    - a. Temperature
      - 1. Air, substrate temperatures and if applicable, dew point.
    - b. Coverage Rates
      - 2. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

### 3.05 CLEANING AND PROTECTION

- A. Cure flooring material in compliance with manufactures directions, taking care to prevent their contamination during the stages of application and prior completion of the curing process.
- B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

END OF SECTION 09 67 23

## SECTION 10 14 00 SIGNAGE

### 1.0 GENERAL

#### 1.01 DESCRIPTION

- A. ADA compliant tactile signage.

#### 1.02 REFERENCES

- A. Title III of the “Americans with Disabilities Act of 1990”, (ADA), Department of Justice and the “Americans with Disabilities Act Accessibility Guideline” (ADAAG).
- B. “American National Standard for Buildings and Facilities “ ICC/ANSI A117.1-1998, Council of American Building Officials/American National Standards Institute.
- C. The Uniform Building Code, as adopted by the State of Ohio.

#### 1.03 SUBMITTALS

- A. Submit the following:
  - 1. Product Data: Manufacturer’s material description and fabrication methods.
  - 2. Shop drawings. (List of required signs)
  - 3. Samples: One full size sign and insert, in the colors specified and graphics scheduled.

#### 1.04 QUALITY ASSURANCE

- A. Manufacturer’s Qualifications:
  - 1. Company with not less than 5 successive years experience in the manufacturing of interior building signs. Bidder must perform the actual manufacturing and cannot subcontract the job out to another manufacturer.
  - 2. Furnish a list of at least 5 signage projects completed in the previous 2 years.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver signs to the project site (or requested destination). Signs must be boxed and have protective wrap to prevent damage during delivery and storage. Store signs in a dry area protected from the elements.

### 2.0 PRODUCTS

#### 2.01 MATERIALS/COMPONENTS/DESIGN

- A. SIGN INSERTS
  - 1. 1-ply 2-piece construction modified acrylic sign material consisting of 1-ply 1/16 inch substrate, and 1-ply 1/32 inch profile material to create tactile copy and graphics.

B. FINISHES AND COLORS: matte finish, ADA compliant for color contrast and surface finish. Refer to project sign schedules for specific information on colors. Select material colors from manufacturer’s literature or actual samples.

C. GRAPHICS

1. Tactile Characters: computer engineered, adhesive-backed, raise graphics, complying with ANSI A117.1-1998.
2. Pictograms: All “symbols” must match as closely as possible the published “international” symbols. Other interpretations will not be deemed acceptable. All symbols must be approved prior to fabrication.
3. Braille: Use drill and press-fit method for placing Braille dots on architectural signs; computer engineered, using special carbide engraving bit, press-fit tool with pump, and UV stable acrylic Rasters™.
4. Design for Characters that are both Tactile and Visual shall comply with ANSI 117.1-1998, Sections 703.2.1 through 703.2.8.
  - a. Character Height: measured vertically from the baseline of the character, shall be 5/8 inch minimum and 2 inch maximum, based on the upper “I”.
  - b. Character Depth: Raised 1/32 inch.
  - c. Copy Style: Upper case, sans serif.
  - d. Braille: complying with ANSI A117.1-1998, Sections 703.5.1 through 703.5.4. Grade 2 (conforming to Specifications #800, National Library Service, Library of Congress), rounded or domed, .025 inch to .032 inch high, to allow smooth tactile sweep of the fingers, from left to right. Braille dots should be of uniform depth. Background surface to be smooth without ridges or other intrusions that will interfere with the ability to read the dots. Raised elements, such as borders, shall be separated a minimum of 3/8 inch from the Braille dot cells group. This clearance dimension is to be applied to the depression caused by a routed, or similar Braille fabrication system, to the distance of the border to tactile characters, or from dot cells to tactile characters in a raster type system. A clear cell may be inserted at the beginning and end of a row to set the left and right border spacing in lieu of 3/8 inch.

Maintain one of the following configurations for dot/cell measurement:

	ANSI (1998)	ADA	CA24
Dot to Dot	0.090 – 0.100 in.	0.090 in.	0.100 in.
Cell to Cell	0.241 – 0.300 in.	0.241 in.	0.300 in.
Row to Row	0.395 – 0.400 in.	0.395 in.	----

- e. Braille Message: All messages to be lower case, and may not directly reflect the style of the tactile letters.
- f. The Braille area is to be located below the corresponding tactile text. If the tactile message is multi-lined and expresses a phrase, the entire Braille text should be grouped together below the tactile message.
- g. In alpha/numeric format, if a tactile print reads A324B, in Braille, text should be written: /capital sign/letter/number sign/numerals/letter

- sign/capital sign/letter. Do not use double capital sign/dot6/dot 6/.
- h. If tactile message is: I  
In Braille, text should be written: /"ar/r/ow"/space/l/e/f/t/.
  - i. Signs containing separate tactile and visual characters, where the same information is provided in a visual format and repeated in a tactile format; tactile characters shall comply with ANSI A117.1-1998.
  - j. Signs containing only visual characters, where tactile characters are not required, shall comply with ANSI A117.1-1991.
5. Engraving Process: Tactile signage shall be profile engraved in accordance with the manufacturer's instructions.

## 2.02 SIGN STYLES

### A. STYLE 1

Sign Verbiage: LAUNDRY  
 ADA Text Plates: ½"=1'-0"  
 Size: 2 1/4" H x 8 1/4" W  
 Color: Black with White copy  
 3/4" raised letters  
 Helvetica Medium ALL CAPS  
 Copy centered horizontally on plate  
 Braille centered directly below copy  
 Letter baseline @ 1 1/2" from top of plate

### B. STYLE 2

Sign Verbiage: MEN or WOMEN  
 ADA Restroom Signs: ¼"=1'-0"  
 6 3/4 "x 6 3/4" with symbols  
 Room # is 1" raised (VERITY ROOM # WITH THE OWNER)  
 3/4" raised letters  
 Helvetica Medium / ALL CAPS  
 Copy centered horizontally on plate  
 Symbols are tactile  
 Room # baseline @ 1 1/2" from top of sign plate

## 3.0 EXECUTION

### 3.01 INSTALLATION

- A. Examine the substrates and conditions under which the work is to be performed, and notify the Contractor of conditions detrimental to the proper and timely completion of the work. Do not proceed with production or installation until unsatisfactory conditions have been corrected.

- B. Tactile characters shall be 48 inches (1220 mm) minimum and 60 inches (1525 mm) maximum above the adjacent floor or ground surface, measured from the baseline of the characters.
- C. Braille shall be 40 inches (1015 mm) minimum and 60 inches (1525 mm) maximum above the floor or ground, measured from the baseline of the Braille cells.
- D. Signs containing tactile characters shall have an 18 inches x 18 inches (455 mm x 455 mm) minimum space on the floor, centered to the sign, beyond the arc of the door swing between the closed position and 45 open position.
- E. Where permanent identification is provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door. Where there is no wall space to the latch side of the door, signs shall be placed on the newest adjacent wall. Mounting location for such signage shall be so that a person may approach within 3 inches of the signage without encountering protruding objects or standing within the swing of the door.

### 3.01 SCHEDULE

- A. Provide (1) sign for each interior door opening – up to a maximum of 16 characters each.
- B. Provide handicapped insignia and men/women insignia at toilet/shower rooms.

END OF SECTION 10 14 00

## SECTION 10 28 13 DETENTION TOILET ACCESSORIES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following toilet accessories for detention applications:
  - 1. Safety hooks.
  - 2. Miscellaneous toilet accessories.
  - 3. Mirrors.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For each type of product. Include plans, elevations, sections, details, and attachments to other Work.
- C. Coordination Drawings: Drawings of each built-in anchor supporting detention toilet accessories, including those to be installed as work of other Sections, drawn to scale and coordinating anchorage with detention toilet accessories. Show the following:
  - 1. Locations, dimensions, and profiles of wall and floor reinforcements.
  - 2. Locations and installation details of built-in anchors.
  - 3. Elevations of each detention toilet accessory showing dimensions of accessory, preparations for receiving anchors, and locations of anchorage.
  - 4. Details of attachment of each detention toilet accessory to built-in anchors.
- D. Samples for Initial Selection: For units with factory-applied color finishes.
- E. Samples for Verification: For each type of exposed finish required and detention toilet accessory indicated.
  - 1. Approved full-size Samples will be returned and may be used in the Work.
- F. Product Schedule: Indicate types, quantities, sizes, and installation locations by room of each accessory required. Use detention toilet accessory designations indicated in this Section and on Drawings and room designations indicated on Drawings.
- G. Product Certificates: For each type of detention toilet accessory, signed by product manufacturer.

- H. Welding certificates.
- I. Qualification Data: For Installer.
- J. Maintenance Data: For detention toilet accessories to include in maintenance manuals.
- K. Warranty: Sample of special warranty specified in this Section.
- L. Other Informational Submittals:
  - 1. Examination reports documenting inspections of substrates, areas, and conditions.
  - 2. Anchor inspection reports documenting inspections of built-in and cast-in anchors.
  - 3. Field quality-control reports documenting inspections of installed products.
  - 4. Field quality-control certification.

#### 1.4 QUALITY ASSURANCE

- A. Installer: An authorized representative of detention toilet accessory manufacturer for installation and maintenance of units required for this Project.
- B. Source Limitations: Obtain each type of detention toilet accessory through one source from a single manufacturer.
- C. Product Options: Drawings indicate size, profiles, and dimensional requirements of detention toilet accessories and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements."
  - 1. Do not modify intended security performance or aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- D. Welding: Qualify procedures and personnel according to the following:
  - 1. AWS D1.1, "Structural Welding Code--Steel."
  - 2. AWS D1.3, "Structural Welding Code--Sheet Steel."

#### 1.5 COORDINATION

- A. Coordinate installation of anchorages for detention toilet accessories. 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.
- B. Coordinate wall construction to ensure that actual opening dimensions correspond to dimensions required for recessed detention toilet accessories.

## 1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of detention toilet accessories that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:
  - 1. Structural failures including deflection exceeding 1/4 inch (6 mm).
  - 2. Faulty operation of hardware.
  - 3. Deterioration of metals, metal finishes, and other materials beyond normal detention use.
- B. Warranty Period: Two years from date of Substantial Completion.

## 1.7 MAINTENANCE TOOLS

- A. Tool Kit: Provide eight sets of tools for use with security fasteners, each packaged in a compartmented kit configured for easy handling and storage.

## 1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Security Fasteners: Furnish not less than 1 box for every 50 boxes or fraction thereof, of each type and size of security fastener installed.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
  - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.

### 2.2 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Sheet: ASTM A 569/A 569M.
- C. Stainless-Steel Sheet, Strip, and Plate: ASTM A 666, Type 304.
- D. Security Fasteners: Operable only by tools produced for use on specific type of fastener by fastener manufacturer or other licensed fabricator. Drive system type, head style, material, and protective coating as required for assembly, installation, and strength, and as follows:

1. Drive System Types: Pinned Torx-Plus.
  2. Socket Flat Countersunk Head Fasteners:
    - a. Heat-treated alloy steel, ASTM F 835.
    - b. Stainless steel, ASTM F 879, Group 1 CW.
  3. Protective Coatings for Heat-Treated Alloy Steel:
    - a. Zinc chromate, ASTM F 1135, Grade 3 or 4; for exterior applications and interior applications where indicated.
    - b. Zinc phosphate with oil, ASTM F 1137, Grade I, or black oxide, unless otherwise indicated.
  4. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Camcar Textron Inc.
    - b. Holo-Krome; a Danaher Corporation.
    - c. Safety Socket Screw Corporation.
    - d. Tamper-Pruf Screws, Inc.
- E. Concealed Bolts: ASTM A 307, Grade A, unless otherwise indicated.
- F. Cast-in-Place Anchors in Concrete: Anchors of type indicated below, fabricated from corrosion-resistant materials capable of sustaining, without failure, a load equal to 4 times the load imposed, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.
1. Threaded or wedge type; galvanized ferrous castings, either ASTM A 47 malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, hot-dip galvanized per ASTM A 153/A 153M.
- G. Embedded Plate Anchors: Fabricated from steel shapes and plates, minimum 3/16 inch thick; with minimum 1/2-inch diameter headed studs welded to back of plate.
- H. Proprietary Built-in Masonry Anchors: Fabricated from 1/4-inch thick steel plate into 8-inch deep blocks matching size of concrete masonry units; with weld nuts attached on inside to receive field-bolted attachments.
1. Finish: Epoxy paint for anchors with bolted attachments.
  2. Available Products:
    - a. Dec Tech, Inc.; Steel Block Embed.
- I. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

## 2.3 DETENTION SAFETY ROBE HOOKS

- A. Individual, Straight Detention Safety Hook: 3/8-inch diameter, stainless-steel straight hook held by 0.1094-inch thick, stainless-steel mounting plate approximately 4 inches square. Provide pivoting assembly that maintains pressure on hook and snaps down when load exceeds 8 lbf.
1. Finish: No. 4.
  2. Mounting: Front mounting with security fasteners.
  3. Available Products:
    - a. Acorn Engineering Company, Recessed Vandal-Resistant Hooks, Penal Ware, Model 1829.
    - b. A & J Washroom Accessories Inc.; Security Hook, US19.
    - c. American Specialties, Inc.; Surface Mounted Security Clothes Hook, Model No. 123.
    - d. Bobrick Washroom Equipment, Inc.; Vandal-Resistant Clothes Hook, B-983.
    - e. Bradley Corporation; Security Towel Hook, Model SA36.
    - f. General Accessory Manufacturing Company; Hook, MSA-18.
    - g. McKinney/Parker Washroom Accessories Corp.; Surface Mounted Auto-Release Clothes Hook, Model No. 581FM.
    - h. Panel Specialties, Inc.; Ball Socket Safety Hook, Model SHB-600.
    - i. Willoughby Industries, Inc.; Release Towel Hook, Model No. TH-3.

## 2.4 MISCELLANEOUS DETENTION TOILET ACCESSORIES

- A. Recessed, Detention Toilet Tissue Dispenser: Minimum 5-inch diameter by 4-1/2 inches deep; formed from 0.0625-inch thick, stainless-steel sheet. Secure to wall with rear-mounting steel strap and adjustment bolts.
1. Face: 1-inch lip around entire face.
  2. Finish: No. 4.
  3. Available Products:
    - a. Acorn Engineering Company, Recessed Toilet Paper holder, Penal Ware, Model 1840.
    - b. A & J Washroom Accessories Inc.; Security Toilet Paper Holder, US74.
    - c. American Specialties, Inc.; Security Recessed Toilet Paper Holder, Model No. 110-1 or 110-2.
    - d. Bobrick Washroom Equipment, Inc.; Recessed Vandal-Resistant Toilet Tissue Holder, B-952 Series.
    - e. Bradley Corporation; Security Recessed Toilet Tissue Roll Holder, Model SA11.
    - f. General Accessory Manufacturing Company; Toilet Tissue Dispenser, MSA-1.
    - g. Maximum Security Products Corp.; Model TP 970.
    - h. Panel Specialties, Inc.; Recessed Toilet Paper Holder, Model TPH-600.
    - i. Willoughby Industries, Inc.; Rear Mounted Tissue Holder, Model No. RTH-1.

- B. Recessed, Detention Soap Dish: Minimum inside dimensions of 5-3/4 inches wide by 4-1/2 inches high by 2-1/2 inches deep with 3/4-inch lip around entire face; formed from 0.0625-inch thick, stainless-steel sheet. Secure to wall with rear-mounting steel strap and adjustment bolts.
1. Finish: No. 4.
  2. Available Products:
    - a. Acorn Engineering Company, Security Soap Dish, Penal Ware, Model 1832.
    - b. A & J Washroom Accessories Inc.; Security Soap Dish, US80.
    - c. American Specialties, Inc.; Security Recessed Soap Dish, Model No. 140.
    - d. Bobrick Washroom Equipment, Inc.; Recessed Vandal-Resistant Soap Dish, B-974 Series.
    - e. Bradley Corporation; Security Recessed Soap Dish, Model SA16.
    - f. General Accessory Manufacturing Company; Recessed Soap Dish, MSA-3.
    - g. Willoughby Industries, Inc.; Recessed Soap Dish Rear Mounted, Model No. RSD-1.

## 2.5 DETENTION MIRRORS

- A. Large, Integrally Framed Detention Mirror with Round Corners: Minimum 9-1/4 inches wide by 16 inches high; with polished stainless steel mirror and integral frame formed from 0.0781-inch thick, stainless-steel sheet; with round corners.
1. Finish: No. 8 for mirror; No. 4 for frame.
  2. Mounting: Front mounting with security fasteners to 0.1564-inch thick, steel mounting plate.
  3. Available Products:
    - a. Acorn Engineering Company, Security Mirror, Penal Ware, model 1817A.
    - b. A & J Washroom Accessories Inc.; Security Mirror, US7408B.
    - c. American Specialties, Inc.; Security Framed Mirror, Model No. 107-1-14.
    - d. Bradley Corporation; Security Framed Wall Mirror, Model SA05.
    - e. Dec Tech, Inc.; Security Mirror.
    - f. Folger Adam Security Inc., Div. of Yale Security Group; Model 408SS.
    - g. McKinney/Parker Washroom Accessories Corp.; Surface Mounted Integral Frame Security Mirror, Model No. 565FM.
    - h. Norix Group (The); Ironman Stainless Steel Mirror, Model No. R565-409.
    - i. Portland Hardware Company Inc.; Large One-Piece Security Mirror, Model PH705-1.
    - j. Willo Products Company Inc.; One Piece Stainless Steel Mirror, #862.
    - k. Willoughby Industries, Inc.; Front Access Security Mirror, Model No. MR2.

## 2.6 FABRICATION

- A. Coordinate dimensions and attachment methods of detention toilet accessories with those of adjoining construction to produce integrated assemblies with closely fitting joints and with edges and surfaces aligned, unless otherwise indicated.
- B. Shear and punch metals cleanly and accurately. Remove burrs.

- C. Form edges and corners to be free of sharp edges and rough areas. Fold back exposed edges of unsupported sheet metal to form a 1/2-inch wide hem on the concealed side, or ease edges to a radius of approximately 1/32 inch and support with concealed stiffeners.
- D. Form metal in maximum lengths to minimize joints. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- E. Weld corners and seams continuously to comply with referenced AWS standard and the following:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
  - 5. Weld before finishing components to greatest extent possible. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- F. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to secure detention toilet accessories rigidly in place and to support expected loads. Build in straps, plates, and brackets as needed to support and anchor fabricated items to adjoining construction. Reinforce formed-metal units as needed to attach and support other construction.
- G. Cut, reinforce, drill, and tap detention toilet accessories to receive hardware, security fasteners, and similar items.
- H. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.
- I. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Use exposed security fasteners of type indicated or, if not indicated, flat-head (countersunk) security fasteners. Locate joints where least conspicuous.

## 2.7 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish detention toilet accessories after assembly.
- C. Steel Finishes:
  - 1. Surface Preparation: Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
  - 2. Factory Priming for Field-Painted Finish: Apply manufacturer's standard prime coat immediately after surface preparation and pretreatment.

3. Baked-Enamel Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 1.2 mils.
  - a. Color and Gloss: As selected by Architect from manufacturer's full range].
- D. Stainless-Steel Finishes: Remove tool and die marks and stretch lines or blend into finish.
  1. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of detention toilet accessories.
  1. Examine roughing-in for embedded and built-in anchors to verify actual locations of detention toilet accessory connections before detention toilet accessory installation.
  2. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of detention toilet accessories.
- B. Inspect built-in and cast-in anchor installations before installing detention toilet accessories to verify that anchor installations comply with requirements. Prepare inspection reports.
  1. Remove and replace anchors where inspections indicate that they do not comply with specified requirements. Reinspect after repairs or replacements are made.
  2. Perform additional inspections to determine compliance of replaced or additional work. Prepare inspection reports.
- C. Verify locations of detention toilet accessories with those indicated on Coordination Drawings.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing detention toilet accessories to in-place construction. Include threaded fasteners for concrete and masonry inserts, security fasteners, and other connectors.
- B. Provide temporary bracing or anchors in formwork for items that are to be built into concrete or masonry or similar construction.
- C. Security Fasteners: Install detention toilet accessories using security fasteners with head style appropriate for installation requirements, strength, and finish of adjacent materials, except that a

maximum of two different sets of tools shall be required to operate security fasteners for Project. Provide stainless-steel security fasteners in stainless-steel materials.

### 3.3 FIELD QUALITY CONTROL

- A. Inspect installed products to verify compliance with requirements. Prepare inspection reports and indicate compliance with and deviations from the Contract Documents.
- B. Remove and replace detention work where inspections indicate that work does not comply with specified requirements.
- C. Perform additional inspections to determine compliance of replaced or additional work. Prepare inspection reports.
- D. Prepare field quality-control certification that states installed products and their installation comply with requirements in the Contract Documents.

### 3.4 ADJUSTING AND CLEANING

- A. Remove temporary labels and protective coatings.
- B. Adjust safety hooks to release with application of 8-lbf load.

END OF SECTION 10 28 13

## SECTION 12 30 00 CASEWORK

### 1.0 GENERAL

#### 1.01 WORK INCLUDED:

- A. The extent of manufactured casework systems as shown on drawings, schedules, and specified herein. Where specific materials, finishes, construction details, and hardware are specified herein, the casework contractor shall be held in strict accordance. All items shall be as provided and publicly cataloged, by one manufacturer to assure physical and dimensional integrity of the system and ready access to additional systems components for a minimum of ten (10) years after completion of this contract. Products from companies not meeting these requirements will not be accepted.
- B. The work includes the fabrication and installation of built-in laminate clad casework and countertops, and related items specified within.

#### 1.02 QUALITY ASSURANCE

- A. Provide manufactured casework system, countertops and related items furnished by the same supplier for single responsibility, and integration with other building trades.
- B. Manufacturer shall show evidence of a minimum of five (5) years experience in providing manufactured casework systems for similar types of projects.
- C. Manufacturer shall produce evidence of adequate facilities and personnel required to perform on this project. Financial stability of manufacturer shall be evidenced by readily providing a material performance bond if required.
- D. Manufactured casework systems must conform to design, quality of materials, workmanship and function as shown on drawings and specified herein. Minimum quality standards shall be in accordance with A.W.I. No exceptions; additional requirements follow herein.

#### 1.03 SUBMITTALS

- A. Product Data:
  - 1. In addition to the general conditions as related to prior approvals, submittals of manufacturer's data, installation instructions, and samples are required upon request.
- B. Samples:
  - 1. Submit samples of casework colors, patterns and textures for exposed and semi-exposed materials for A/E's selection. Samples of other materials or hardware shall be made available upon request.
  - 2. A/E may request representative full-size samples for evaluation prior to approval.
- C. Shop Drawings:
  - 1. Submit shop drawings for casework systems and countertops showing layout, elevations, ends, cross-sections, face modular values, service run spaces and location of services.
  - 2. Include layout of units with relation to surrounding walls, doors, windows,

and other building components.

3. Coordinate shop drawings with other work involved.

#### 1.04 PRODUCT HANDLING

- A. Deliver laminate clad casework and countertops only after wet operations in building are completed.
- B. Store completed laminate clad casework and countertops in a ventilated place, protected from the weather.
- C. Protect finished surfaces from soiling and damage during handling and installation. Keep covered with a protective covering.

#### 1.05 JOB CONDITIONS

- A. Humidity and Temperature Controls:
  - 1. Advise Contractor of requirements for maintaining heating, cooling, and ventilation in installation areas as required to reach relative humidity necessary to maintain optimum moisture content.
- B. Examination of Substrate and Conditions:
  - 1. The installer must examine the substrate and the conditions under which the work under this section is to be performed and notify to Contractor in writing of unsatisfactory conditions. Do not proceed with work under this section until unsatisfactory conditions have been corrected in a manner acceptable to installer.

#### 1.06 WARRANTY

- A. All materials and workmanship covered by this section will carry a three (3) year warranty from date of acceptance.

### 2.0 PRODUCTS

#### 2.01 ACCEPTABLE MANUFACTURERS:

- A. Provide casework manufactured or furnished by the same company for single responsibility. Manufacturer: Provide educational casework produced by one of the following:
  - 1. Stevens Cabinet Company: Casemaster 2400 Series
  - 2. LSI Corporation of America
  - 3. TMI Systems: Trimline Series
  - 4. Mica-Tec
  - 5. Case Systems, Inc.
- B. Manufacturer and Product Type:
  - 1. It is the intent of this specification to establish performance and quality criteria consistent with pre-established standards of design and function herein described. Casework systems not meeting these minimum standards will not be acceptable.

## 2.02 MATERIALS

### A. Core Materials:

1. Particleboard: Industrial grade particleboard with minimum 45 lb. density meeting or exceeding ANSI A2.08.1 (1993) and/or ASTM D-1037-87A standards.
2. MDF (Medium-Density Fiberboard): Minimum 48 lb. density meeting or exceeding ANSI A208.2 (1986) standards. (To be used at high-stress areas as drawer box components and mounting rails).
3. Hardboard: Prefinished tempered hardboard ¼” thickness meeting or exceeding ANSI standards ANSI-AHA-A135.4-1982.

### B. Surface Materials:

1. Exposed Exteriors (storage unit side surfaces visible after installation and wall-mounted shelving): high pressure decorative plastic laminate meeting or exceeding NEMA GP50 General Purpose for horizontal applications or NEMA PF42 for vertical applications.
2. Open Interiors (storage units without doors or drawer fronts; units with full glass doors, acrylic doors or glass insert doors, including shelving): high pressure decorative plastic laminate meeting or exceeding NEMA GP50 General Purpose for horizontal applications or NEMA PF42 for vertical applications.
3. Closed Interiors (storage units with hinged or sliding laminate doors and/or drawer fronts): high pressure plastic laminate cabinet liner meeting or exceeding NEMA CL-20; thermofused melamine laminate; or thermoset polyester laminate meeting or exceeding high pressure laminate NEMA LD3-1991, CL-20 and ALA standards.
4. Door Fronts (exterior face of any laminate hinged or sliding door ) high pressure decorative laminate meeting or exceeding NEMA PF-42. Interior surface of doors fronts to be balanced with high pressure plastic laminate cabinet liner meeting or exceeding NEMA-CL-20.
5. Semi-Exposed Surfaces (tops of cabinets 72” or more above finished floor and bottoms of wall cabinets): high pressure plastic laminate cabinet liner meeting or exceeding NEMA CL-20; thermofused melamine laminate; or, thermoset polyester laminate meeting or exceeding high pressure laminate NEMA LD3-1991, CL-20 and ALA standards.
6. Concealed Surfaces (any surface not normally visible after installation): high pressure plastic laminate cabinet liner meeting or exceeding NEMA CL-20; thermofused melamine laminate; or, thermoset polyester laminate meeting or exceeding high pressure laminate NEMA LD3-1991, CL-20 and ALA standards.
7. Horizontal Work Surfaces (countertops identified on drawings as plastic laminate and related splashes, curbs, caps, and closures); postformable horizontal surfacing grade high pressure decorative laminate meeting or exceeding NEMA GP50 General Purpose. ALL countertops and related to have appropriate balancing sheet on underside.

### C. Edging Materials and Colors:

1. Exposed exterior cabinet members shall be edged with chip and crack resistant rigid PVC extrusion, satin finish with UV cured top coat for additional durability. Edging to be machine applied with waterproof hot melt adhesive. PVC edging to be color selected from manufacturer's standard colors. Color is to be extruded through entire thickness of material.
2. Adjustable shelves and interior components of closed units shall be edged with a 3mm thick chip and crack resistant rigid PVC extrusion, satin finish with UV cured top coat for additional durability. Edging to be machine applied with waterproof hot melt adhesive. PVC edging to be color selected by A/E from manufacturer's standard colors. Color is to be extruded through entire thickness of the material.
3. Shelves and interior components in open units shall be edged in high pressure decorative plastic laminate meeting or exceeding NEMA GP50 General Purpose for horizontal applications or NEMA PF42 for vertical applications.
4. Doors shall be edged with chip and crack resistant rigid PVC extrusion, satin finish with UV cured top coat for additional durability. Edging to be machine applied with waterproof hot melt adhesive. PVC edging to be color selected from manufacturer's standard colors. Color is to be extruded through entire thickness of the material.

## 2.03 CABINET HARDWARE

### A. Hinges:

1. Shall be five-knuckle institutional grade hinges and shall permit 165 degree door swing. Hinge crank shall be heavy steel with a concealed, integral self-closing spring mechanism. Hinge boss shall be heavy diecast steel. Nylon inserts shall be provided in door for positive screw attachment. Hinge attachment to sides of cabinet shall employ special 5mm threaded fasteners for additional strength. Hinge shall have a lifetime guarantee warranted by the hinge manufacturer. Doors less than 48" in height shall have two (2) hinges each door; doors 48"-63" in height shall have three (3) hinges each door; all doors greater than 63" in height shall have four (4) hinges each door.

### B. Door Catches/Bumper Strike Plate:

1. Each door shall be provided with a heavy-duty spring loaded, large diameter (17.5mm-11/16") roller type catch mounted at bottom edge to maintain and support proper door alignment. All doors over 48" in height shall be provided with roller catch at both top and bottom of door.
2. Catch strike plate shall be injection molded nylon, with an integrally molded engagement ridge. Strike plate shall also provide a wide face bumper ensuring a positive door stop.

### C. Pulls:

1. Door and drawer pulls shall be available in brushed chrome metal bent wire style.

D. Adjustable Shelf Support System:

1. Shelf supports for adjustable shelves shall be injection molded nylon, clear in color to coordinate with selected interior finish. Shelf support shall incorporate with selected interior finish. Shelf support shall incorporate integrally molded lock tabs accommodating both ¾" and 1" thick shelves to prevent shelf from tipping and inadvertent lift out. Each support shall have 5mm diameter double pin engagement into precision bored hole pattern in cabinets' vertical members. Shelves are adjustable on 32mm (1-1/4") centers. Supports shall have molded ridge exerting pressure against edge of shelving to maintain positive pin engagement. Supports designed to permit field fixing of shelf if desired. Static load test load to exceed 200 pounds per support.

F. Locks:

1. Institutional grade high security padlock hasps will be provided at each pair of cabinet doors. Hasps shall be provided in brushed chrome finish. Padlocks will be provided by Owner and not in contract.

## 2.04 COMPONENT DETAILS

A. Door and Frame Fronts;

1. Core for all doors shall be ¾" thick particleboard. All edges shall be finished as indicated herein.
2. All doors shall be full-overlay construction.
3. Exterior faces of door fronts shall be surfaced with high pressure decorative laminate meeting or exceeding NEMA PF-42, color as indicated in schedule. Interior of doors shall be high pressure cabinet liner meeting or exceeding NEMA CL-20 in color as selected from manufacturer's standard colors.
4. All edges of doors shall have 3mm PVC.

B. Sloped tops;

1. Tops shall be ¾" thick particleboard and shall be sloped. Exterior surfaced with high pressure decorative laminate meeting or exceeding NEMA PF-42, color as selected from manufacturer's standard colors.

C. Adjustable Shelves:

1. Adjustable shelves, less than 27" in length, shall be ¾" thick. Shelves 27" long and over, and all adjustable shelves in wall cabinets, shall be 1" thick.

## 3.0 EXECUTION

### 3.01 INSPECTION

- A. The installer must examine the job site and the conditions under which the work in this section is to be performed, and notify the contractor in writing of unsatisfactory conditions. Do not proceed with work under this section until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

### 3.02 PREPARATION

- A. Casework, countertops, and related materials to be conditioned to average prevailing humidity condition in installation areas prior to start of work.

### 3.03 INSTALLATION

- A. Install casework with factory-trained supervision authorized by manufacturer. Install casework plumb, level, true and straight with no distortions. Shim as required. Where laminate clad casework and countertops abut other finished work, scribe and trim to accurate fit.
- B. Adjust casework and hardware so that doors operate smoothly without warp or bind. Lubricate operating hardware as recommended by the manufacturer.

### 3.04 CLEANING AND PROTECTION

- A. Repair or remove and replace defective work as directed upon completion of installation.
- B. Clean plastic surfaces, repair minor damage per plastic laminate manufacturer's recommendations. Replace other damaged parts or units.
- C. Advise contractor of procedures and precautions for protection of casework and countertops from damage by other trades until acceptance of work by A/E and Owner.
- D. Cover casework with 6-mil polyethylene film for protection against soiling and deterioration during remainder of construction period.

END OF SECTION 12 30 00

## SECTION 22 05 00 COMMON WORK RESULTS FOR PLUMBING

### PART 1 GENERAL

#### 1.01 PREFACE

- A. Terminology: In the Sections listed above, the term “Contractor” shall mean the Plumbing Contractor performing Work on this Project, unless otherwise noted.

#### 1.02 DESCRIPTION

- A. Furnish material, labor, tools, accessories, and equipment to complete and leave ready for operation all plumbing systems of this Project as described in these Specifications and as shown on the Drawings.
- B. It is the intent that the Plumbing Work be complete in every respect. Install Work in compliance with the Latest Enforced Edition of all applicable Codes, Regulations, and Standards, unless otherwise noted. Obtain all permits, licenses, and certifications required by the Code Authority having Jurisdiction.
- C. Only a Contractor and craftsmen licensed by the State as required shall install this Plumbing Work.
- D. Use sufficient workers and competent supervisors in execution of this portion of the Work to ensure proper and adequate installation throughout. In the acceptance or rejection of installed plumbing system, no allowance will be made for lack of skill on the part of workers.
- E. Shop drawings for the installation of a plumbing system shall be submitted and reviewed by the Architect/Engineer (A/E) before any plumbing work is installed, enlarged, or extended. Under NO circumstances shall any Work be performed prior to receiving shop drawings reviewed by the A/E.
- F. Coordinate location of all work with other Contractors and equipment.
- G. Maintain existing facilities in operation whenever possible. Occupied sections of the building will remain in use throughout construction. Coordinate with the A/E and Owner.
- H. The plumbing system shall not be considered complete and acceptable unless, and until, all Code and Governing Agency requirements are satisfied.

#### 1.03 STANDARDS OF QUALITY

- A. Contractor shall provide Work of the highest quality, conforming to the accepted practices and standards of the Trades involved.

- B. Further definition of quality is given by reference to various Laws, Codes, Standards, and Regulations.
- C. All work on this Project shall conform to applicable National, State, and Local Building Codes and any local laws, ordinances, regulations, and requirements pertaining to this work. Code references, when made, shall be based upon the currently enforced Edition.
- D. Any Law, Code, Standard, or Regulation referred to in other Sections of Division 22 is included in its entirety as a part of these Specifications.
- E. Give notice and comply with all Laws, Ordinances, Rules, Regulations, and lawful orders of the Code Authority having Jurisdiction bearing on the performance of the Plumbing Work.
- F. The following Codes apply to this Work:
  - 1. State of Ohio: Ohio Administrative Code (OAC):
    - a. OAC 3701: 2007 Health Code.
    - b. OAC 4101:1: 2007 Ohio Building Code.
    - c. OAC 4101:2: 2007 Ohio Mechanical Code.
    - d. OAC 4101:3: 2007 Ohio Plumbing Code.
  - 2. National:
    - a. National Fire Protection Association (NFPA), Current Edition.  
Codes as listed in subsequent Specification Sections, including 2008 NFPA 70, “National Electric Code® (NEC).”
    - b. Americans with Disabilities Act (ADA) (36 CFR 1191).
    - c. American Society of Mechanical Engineers (ASME) Welding Code B31.1.0.
- G. Licensed Contractors shall perform Work as required by State Codes.
- H. Methods and materials shall be certified where noted in the individual Specification Sections.
- I. All equipment and appliances installed on this Project shall bear the label of an Approved Testing Agency, and shall be installed in accordance with the Manufacturer’s instructions for the labeled equipment and appliances.
- J. All structural steel used on this Project shall be manufactured in the United States, per Ohio Revised Code 153.011.
- K. Work shall comply with State Health Department requirements.

#### 1.04 CONTRACT DRAWINGS

- A. Drawings are schematic and show approximate locations, general arrangement, and extent of Work.
- B. The Contract Drawings are not intended to show every vertical or horizontal offset that may be necessary to complete the systems. Having piping and

fittings fabricated and delivered in advance of making actual measurements shall not be sufficient cause to avoid making offsets or other changes as may be necessary to install piping and equipment.

- C. Verify exact locations in the field, and coordinate with all other Contractors.
- D. The A/E shall approve, in writing, significant deviations from the Drawings.
- E. The A/E reserves the right to make minor changes in location that do not require additional labor or material, up to the time of roughing-in, without additional cost. The A/E reserves the right to determine what is “significant” and what is “minor.”
- F. If a conflict occurs between the Drawings and Specifications, immediately submit a written request for an interpretation or clarification from the A/E, who shall determine which interpretation has precedence. Refer to Article 3.2 of the General Conditions.
- G. Should overlap of work among the Trades become evident, immediately submit a written request for an interpretation or clarification from the A/E, who shall determine which interpretation has precedence. Refer to Article 3.2 of the General Conditions. In such event, none of the Contractors shall assume that it is relieved of the Work that is specified under its branch unless instructions are received, in writing, from the A/E.

#### 1.05 EXAMINATION OF SITE

- A. Certain existing conditions may affect the manner or sequence of the performance of the Work. Existing services, structures, and operating schedules may need to be reviewed prior to bidding to facilitate the installation of the Work without disrupting the normal operation of the facility.
- B. Before submitting its Bid, the Contractor should visit the site of the proposed Project. After receipt of Bids, no allowances will be made for lack of knowledge of Project conditions.
- C. Verify and reconcile Work required by the Contract Documents with existing conditions at the Site.
- D. Should the Contractor note any discrepancies during the Bidding Period, it shall notify the A/E immediately, in writing, to permit issuance of an Addendum to prevent misunderstandings at a later date.

#### 1.06 APPLICABLE CODES, LICENSES, PERMITS, FEES, AND NOTICES

- A. The A/E will submit all Contract Drawings and Specifications to the State of Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Construction Compliance, and to the Department of Health, pay the

application fee to secure Plan Approval, and obtain and pay for the Plan Approval Certificate.

- B. Secure and pay for the State building permit, and any ADDITIONAL permits, governmental fees, bonds, licenses, and inspections required for the proper execution and completion of the Plumbing Work.
- C. Pay for all other fees, meter charges, and other charges related to Plumbing Work and payable to Utility Companies or Code Enforcement Agencies.
- D. It will be necessary to fully complete several portions of Work in one area, before other areas are started.
- E. Arrange and pay for all inspections required to obtain a Certificate of Beneficial Occupancy. Contractor shall include this cost in its bid.
- F. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, it shall promptly notify the A/E in writing, and any necessary changes will be arranged by the A/E.
- G. If the Contractor performs any Work knowing it to be contrary to such Laws, Ordinances, Rules, and Regulations, and fails to give prior notice to the A/E, the Contractor shall assume full responsibility for, and shall bear all costs associated with, correcting the Work.

#### 1.07 CONTRACTOR'S RESPONSIBILITY

- A. Provide a Superintendent, on site, whose duties include the directing and supervising of work. Inform the A/E of the Superintendent's name and phone number, and the method of contact when the Superintendent is not at the site.
- B. As soon as possible after the Award of the Contract and the approval of Shop Drawings, the Contractor shall place orders for materials and equipment required for its Work. Immediately inform the A/E in writing as to any materials and equipment that cannot be obtained within the required time period, either due to conditions of the market or other governing factors.
- C. Inspect each item of materials or equipment immediately prior to installation. Reject damaged and defective items.
- D. Contractor shall determine erection procedures and sequence the construction to keep its work on schedule and to ensure the safety of the building and its occupants. This includes supplying whatever temporary bracing, guys, or tie-downs might be required. Such materials shall remain the Contractor's property after completion of the Project.
- E. Provide attachment and connection devices and methods for securing work. Secure all work true to line and level and within recognized industry tolerances. Allow for expansion and building movement.
- F. Recheck measurements and dimensions of the Work as an integral step of

starting each installation.

- G. Where mounting heights are not indicated, individual units generally can be mounted at industry-recognized standard mounting heights for the particular application indicated. However, the A/E must approve all mounting heights.
- H. Coordinate the enclosure or concealment of the Work with the required inspections and tests so as to minimize the necessity of uncovering work for that purpose.

#### 1.08 COORDINATION OF WORK

- A. Contractor shall coordinate its Work carefully with all other Contractors.
- B. Contractor shall read the entire Specification covering other branches of the Work. It will be held responsible for the coordination of its work with the work performed by other Trades.
- C. Coordinate locations of all Plumbing Work with sprinklers, piping, hangers, ductwork, diffusers, grilles, registers, lighting fixtures, smoke and heat detectors, speakers, occupancy sensors, conduits, cable trays, bus ducts, and other equipment, and with ceilings, soffits, structural members, joists, purlins, metal decks, bracing, etc.
- D. Consult all Contract Drawings that may affect the location of any equipment, apparatus, and piping, and make any other adjustments in location as necessary to secure coordination.
- E. Contractor shall be responsible for the cost of additional engineering work required for changes to the work as shown or described, due to the relocation of items requested by the Contractor.
- F. Do not install work without first coordinating the layout, routing, etc., with other Contractors whose work may be affected.
- G. Review all equipment nameplate ratings and advise the A/E immediately of any system design changes required to wire the equipment properly.

#### 1.09 RECORD DRAWINGS

- A. Maintain, at the job site, (1) set of the Drawings and Specifications that shall be used exclusively for documenting and recording the exact location of all installed Work.
- B. Record deviations in locations of concealed piping, valves, equipment, and all buried or concealed utility services, piping, etc., dimensioned from a fixed control point, including depth of bury, invert elevations at start of storm or sanitary line, at each change of direction, at each change of slope, and as

required for further reference. Minor piping variations need not be recorded. Record locations of abandoned piping, including exterior lines.

- C. Record all Addendum and Change Order Items.
- D. Add valve tag numbers to Drawings.
- E. Record deviations made necessary to incorporate equipment different from the Design Base equipment.
- F. Contractor shall deliver (1) copy of its Record Drawings to the A/E.

#### 1.10 GUARANTEE

- A. Contractor shall guarantee its equipment, workmanship, and materials for a period of (1) year from the date of Contract Completion. Should defects develop within this period, the Contractor shall, at no cost to the Owner, remedy the defects and reimburse the Owner for all damage to other Work caused either by the defects or as a result of the work of correcting the same.
- B. Refer also to Division 01 and other Specification Sections that define the starting date of the guarantee period, or that discuss either additional warranty requirements, or extended equipment warranties beyond the standard period.

#### 1.11 ABBREVIATIONS AND SYMBOLS

- A. Titles and abbreviations may be used in these Specifications. Abbreviations may be shown on the Plumbing Drawings. Refer to the list of abbreviations attached to this Section. Refer also to the symbols lists shown on the Drawings for further abbreviations. All titles and abbreviations may not necessarily apply to this Work.

#### 1.12 DEFINITIONS

- A. "Provide": To furnish, install, and connect to make completely ready for regular operation.
- B. "Furnish": To supply or deliver to site complete with all required accessories and installation instructions.
- C. "Install": To mount, erect, hang, or fasten in place, and connect to make ready for regular operation.
- D. "Concealed": Either embedded in masonry or other construction, or installed below floor slab, behind wall furring, within chases or soffits, within walls, within double partitions, above ceilings, in trenches, in tunnels, or within crawl spaces.

- E. "Exposed": In full or partial view; not "Concealed" as defined above.
- F. "Accessible Ceiling": Lay-in ceiling with removable ceiling tiles.
- G. "Piping": Pipe, fitting, flanges, valves, controls, specialties, hangers, bracing, insulation, and other items required or necessary.
- H. Refer to additional Definitions in Division 01 and in the State Building and Mechanical Codes.

## PART 2 PRODUCTS

### 2.01 DESIGN BASE MANUFACTURER STANDARD

- A. The Drawings and Specifications are based on the specific equipment requirements and configuration for a Design Base Manufacturer. Design coordination of equipment with the building and with other Trades has been made for this specific Model and Manufacturer of equipment. Where several Manufacturers are listed for an item of equipment or material, the first-named shall be considered the Design Base Manufacturer Standard.
- B. Consideration will not be given to any other Manufacturer that the Contractor proposes to use, unless the Manufacturer has been approved by the A/E and specifically named in the Contract Documents or Addenda thereto.

### 2.02 OTHER ACCEPTABLE COMPONENTS (MANUFACTURERS)

- A. Other Manufacturers listed in the Specifications shall be acceptable; however, whenever the Contractor elects to furnish specified equipment or material manufactured by other than the Design Base Manufacturer, the Contractor shall be responsible for the cost and coordination of all modifications required to accommodate the elected equipment or material, including any Work of other Trades that might be affected. Where changes to other Trades' Work are required, the Contractor shall include the additional costs of all such Work in its bid.
- B. Any specified Equipment Manufacturer furnished by the Contractor, other than the Design Base Manufacturer, shall be, in the opinion of the A/E, equivalent in quality, design, features, performance, arrangement, and appearance to that of the Design Base equipment or material, including any special features or requirements.
- C. The A/E will not give consideration to any Manufacturer that the Contractor proposes as a Substitution, unless the A/E approves the Manufacturer during the bid period, as provided for in Section 00 21 13, "Instructions to Bidders," Paragraph 2.4, and specifically names the Manufacturer in the

Contract Documents or Addenda thereto.

- D. Where deemed necessary by the A/E, the Contractor shall, at no additional cost to the Owner, prepare layouts for these other brands of equipment that may have different dimensional or service requirements from the Design Base Manufacturer Standard. Submit these layouts to the Engineer for review.
- E. Reimburse the Owner for the cost of any design changes incurred by the A/E in the preparation of revised Drawings or Specifications to accommodate the use of any Manufacturer other than the Design Base Manufacturer.
- F. The A/E will not give consideration to any other Manufacturer that the Contractor proposes to use, unless the A/E approves the Manufacturer, and specifically names the Manufacturer in the Addenda to the Specifications.

## 2.03 SUBSTITUTIONS

- A. Contractor shall submit information, in accordance with Section 00 21 13, Paragraph 2.5, on any proposed equipment or material that the Contractor desires to use as a Substitution.
- B. Contractor shall be responsible for the same costs of coordination and modifications, etc., listed above in Paragraph 2.02, "Other Acceptable Components (Manufacturers)."
- C. If the A/E determines that the proposed Manufacturer is acceptable, the A/E will issue an Addendum adding that Manufacturer to the Specification.

## 2.04 EQUIPMENT SUITABILITY

- A. All equipment provided shall perform as intended. All items listed shall function properly, and as the Manufacturer intended. Install equipment according to the Manufacturer's recommendations. Properly attach equipment to the floor, wall, or structure. Each item of equipment shall be compatible with all other accessories or hook-ups, including piping, controls, wiring, and other equipment not furnished by the equipment Manufacturer, but required to achieve the intended function.

## 2.05 MISCELLANEOUS ACCESSORIES

- A. Provide any additional adapters, fittings, trim, structural steel angles, channels, unistrut, brackets, etc., as necessary to securely install all items of equipment specified or shown on the Drawings. All steel installed outside or exposed to moisture shall be hot-dipped galvanized.
- B. These accessories are required even though they may not be shown or

detailed on the Drawings.

- C. Installation shall be compatible with the building construction on which the item is to be located.
- D. Verify the type of construction prior to ordering the equipment item, so that all required accessories are included.

## 2.06 QUANTITIES

- A. Equipment may be referred to in these Specifications, or on the Drawings, as either singular or plural; the Contractor shall verify the exact number of items required to complete its Work.

## PART 3 EXECUTION

### 3.01 EQUIPMENT PROTECTION

- A. Unless equipment and material can be protectively stored in a manner acceptable to the A/E, they shall not be delivered to the site until the Work is ready to receive them.
- B. Protect all equipment and materials during construction from damage by weather, water, dirt, paint droppings, welding and cutting spatters, and other construction activities.
- C. All materials or equipment stored outside shall be elevated and protectively covered in a secured and locked area.
- D. Store materials and equipment sensitive to weather or construction conditions inside. Where necessary, store sensitive equipment in a heated area.
- E. During construction, cover all equipment and other items that are susceptible to damage until they can be installed in place.
- F. Immediately repair or replace damaged equipment or materials to the satisfaction of the A/E and at no additional cost to the Owner.
- G. Contractor shall protect the building and other Contractors' material and equipment from damage caused by its Work. Protect floors from cutting oil and chips.
- H. Use all means necessary to protect materials before, during, and after installation.
- I. Refer also to individual Specification Sections for specialized protection.

### 3.02 SAFETY

- A. Maintain Project in accordance with Federal, State, and Local Safety and Insurance Standards. All procedures shall comply with the latest regulations of the Occupational Safety and Health Administration (OSHA).
- B. Contractor shall provide eye and ear protection, as approved by OSHA, for each of its employees.
- C. Contractor shall be solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs in connection with the Work. The Owner, Architect, or Engineer will not be responsible for the Contractor's failure to employ proper safety procedures.
- D. Contractor shall be solely responsible for the structural design of all temporary items that it uses in the construction of the building, or that become a permanent part of the building, including, but not limited to, hoisting, shoring for concrete and masonry work, the temporary bracing for structural steel, the shoring of cut earth banks, suspended ceilings, equipment, walls, etc.
- E. Exercise precaution for the protection of persons and property. Provide guard rails, barricades, enclosures, canopies, passageways, lanterns, warning lights, and other protective safety devices as necessary or required by the Code Authorities having Jurisdiction, and as required to protect persons and property against accidentally dropped materials or other construction hazards.
- F. Provide protection as may be required to prevent glass breakage. Replace broken glass at no cost to the Owner.
- G. Hazards Control:
  - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
  - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - 3. Prevent accumulation of waste that creates hazardous conditions.
  - 4. Provide adequate ventilation during use of volatile or noxious substances.

### 3.03 AIR HANDLING PLENUMS

- A. Where space is used for air handling, such as above ceilings and elsewhere, do not install combustible or noxious materials.
- B. All materials shall be listed for use in air handling plenums. All wiring shall be UL 910-listed.

### 3.04 EQUIPMENT ACCESS

- A. Locate all units to provide sufficient access to operate equipment or service other items requiring periodic maintenance. Coordinate with structure and with all other Contractors' work.

### 3.05 ACCESS PANELS

- A. Unless otherwise noted, furnish all access panels required for concealed plumbing work to the General Trades Contractor for installation as shown on the Architectural Drawings.
- B. Provide all other access panels as needed.
- C. Mark locations of access panels on the Record Drawings.

### 3.06 PAINTING AND RELATED WORK

- A. ALL PAINTING SHALL BE DONE BY A QUALIFIED TRADESMAN SKILLED IN THE CRAFT.
- B. General Trades Contractor shall be responsible for finish painting of walls, ceilings, and other Architectural items in the areas of new and existing construction.
- C. Paint exposed piping, valves, etc.
- D. Contractor shall repaint any previously finished areas or existing areas disturbed by its own cutting and patching. Painting of the patched area shall match color of the adjacent construction in the general area of the patch. Repaint the entire wall-to-wall and floor-to-ceiling surface if, in the opinion of the A/E, a uniform appearance cannot be accomplished by touch-up.
- E. Clean, spot-prime with zinc chromate, and finish equal to the original quality any factory-finished equipment that has rusted, has been damaged, or has deteriorated. Repaint the entire surface if, in the opinion of the A/E, a uniform appearance cannot be accomplished by touch-up.
- F. Clean all new insulation coverings. If pre-sized insulation is not used, insulation coverings shall be sized if finish painting is required.
- G. Clean, remove rust from, and paint with zinc-chromate primer any plumbing support steel and bare ferrous metal, which is not factory-painted, shop-painted, or galvanized, and which remains exposed to view in the finished areas of the building, including mechanical rooms and storage rooms. Consult with General Trades Contractor to ensure that the prime coat shall be compatible with the finish coat.
- H. Clean, remove rust from, and paint with zinc-chromate primer and aluminum-bronze paint all steel hangers, boxes, straps, and rods, furnished

under this Contract, which are not provided with rust-protective finish or are damaged in installation, and which remain exposed to view or are in unfinished and mechanical spaces.

- I. Paint with a prime coat any ferrous metal installed outside the building that is not factory-painted, shop-painted, or galvanized.
- J. Refer to Section 09 91 00 for additional requirements.

### 3.07 CLEANING

- A. Maintain all work areas in a neat and orderly manner, free of debris. Clean up all occupied travel areas at the end of each shift, or immediately after use for material removed.
- B. It is the intent of the Specifications that each Contractor and Subcontractor shall do its own cleanup, move materials that are in the way of construction, repair and replace any damage it does, and do any other work of a similar nature which must be done.
- C. Equipment cleaning and touch-up:
  - 1. Use only cleaning materials recommended by Manufacturer of the surface to be cleaned.
  - 2. Clean interiors of all enclosures of dirt and debris before installing trim or covers.
  - 3. Brush-clean, prime, and paint-in-kind rust spots on any part.
  - 4. Clean galvanized piping in exposed areas with diluted acetic acid.
  - 5. Clean copper piping in exposed areas with fine emery cloth and solvent.
  - 6. Clean all gauges, thermometers, traps, dirt legs, strainers, and fittings.
- D. Final cleaning:
  - 1. Repair, patch, and touch up all scratched or damaged surfaces to specified finish to match adjacent surfaces, before final acceptance of the work. Repair dents and marred finishes to the satisfaction of the A/E. Prepare for finish painting, where painting is specified.
  - 2. Thoroughly clean all fixtures, material, finished surfaces of equipment, painted, enameled, or varnished work, and all other exposed finished surfaces, removing all labels, stickers, marks, stains, fingerprints, spots, rust, oil, grease, dirt, dust, and other foreign materials, so that the Work is presented in a complete and finished condition, ready for acceptance and intended use.
  - 3. Employ experienced workers, or professional cleaners, for final cleaning.
  - 4. Verify that all drains are free of debris.
  - 5. Expedite the cleaning, washing, waxing, and polishing required within

other Sections of these Specifications.

- E. Refer to Section 01 74 00, "Cleaning and Waste Management," for additional requirements.

### 3.08 TESTS AND INSPECTIONS

- A. The Contract Documents, Laws, Ordinances, Rules, Regulations, or Orders of any Code Authority having Jurisdiction may require portions of the Work to be inspected, tested, or approved.
- B. Test and check all control valves, drain valves, gauges, alarm devices, and waterflow and supervisory switches for proper operation. Submit a written record of these tests to the A/E.
- C. Arrange for inspection of the Work by the Code Authority having Jurisdiction. Inspections shall be conducted by the following:
  - 1. State of Ohio Department of Commerce, Division of Industrial Compliance, Construction Compliance Section.
  - 2. State of Ohio Department of Health.
  - 3. State of Ohio Department of Commerce, State Fire Marshal Division.
- D. Notify the A/E of all scheduled tests and adjustments at least (48) hours before they are scheduled, so that the A/E may witness same. If the Contractor performs any test or adjustment without the A/E present, or without proper notification, the Contractor shall perform the test or adjustment a second time, in the presence of the A/E. Coordinate all test schedules with the Owner to minimize inconvenience.
- E. Concealed lines shall be tested and approved before being concealed. If a leak appears during the final test, repair the line and any damage resulting from the leak.
- F. After Work has been completed, but before pipe covering has been applied, test each system as required by other Sections of this Specification. At the test pressures, the circulation shall be free and the piping shall be proven free of leaks.
- G. Provide all required testing and obtain approvals. Secure required certificates of inspection, testing, or approval, and include them in the Operating and Maintenance manuals.
- H. Contractor shall bear all costs of such inspections, tests, or approvals.
- I. Should any of the Work be covered up or enclosed prior to completion of all required inspections and approvals, uncover the Work as required and, after it has been completely inspected and approved, make all repairs and replacements with such materials and workmanship as are necessary to secure the approval of the A/E, and at no additional cost to the Owner.

- J. Furnish all test pumps, gauges, equipment, and personnel required, and test as necessary, to demonstrate the integrity of the finished installation to the approval of the Code Authority having Jurisdiction and the A/E.
- K. Check each piece of equipment for defects and verify that all parts are properly furnished and installed, that all items function properly, and that all adjustments have been made.

### 3.09 FACTORY INSTALLATION AND START-UP

- A. For those items of equipment that are to be installed, tested, started up, and certified by a factory-trained Representative, furnish a letter from the Factory to the A/E stating that this service shall be provided for this Project, describing the scope of services to be provided, and disclosing the name of the Representative assigned to provide the required services.

END OF SECTION 22 05 00

## SECTION 23 05 00 COMMON WORK RESULTS FOR HVAC

### PART 1 GENERAL

#### 1.01 PREFACE

- A. Terminology: In the Sections listed above, the term “Contractor” shall mean the HVAC Contractor performing Work on this Project, unless otherwise noted.

#### 1.02 DESCRIPTION

- A. The Provisions listed in this Section are in addition to the requirements referenced in Paragraph 1.02 above. They are not meant to replace them, but they shall supersede any conflicting statements contained elsewhere in the Specifications. Contractor is responsible for the more restrictive requirement between these Division 23 General Provisions and other requirements contained elsewhere in the Specifications.
- B. Furnish material, labor, tools, accessories, and equipment to complete and have ready for operation all HVAC systems of this Project as described in these Specifications and as shown on the Drawings.
- C. It is the intent that the HVAC Work be complete in every respect. Install Work in compliance with the Latest Enforced Edition of all applicable Codes, Regulations, and Standards, unless otherwise noted. Obtain all permits, licenses, and certifications required by the Code Authority having Jurisdiction.
- D. Only a Contractor and craftsmen licensed by the State as required shall install this HVAC Work.
- E. Temperature Controls Contractor is a Subcontractor to the HVAC Contractor.
- F. Use sufficient workers and competent supervisors in execution of this portion of the Work to ensure proper and adequate installation throughout. In the acceptance or rejection of installed HVAC system, no allowance will be made for lack of skill on the part of workers.
- G. Shop drawings for the installation of a HVAC system shall be submitted and reviewed by the Architect/Engineer (A/E) before any HVAC system is installed, enlarged, or extended. Under NO circumstances shall any Work be performed prior to receiving shop drawings reviewed by the A/E.
- H. Coordinate location of all work with other Contractors and equipment.
- I. Maintain existing facilities in operation whenever possible. Occupied sections of the building will remain in use throughout construction. Coordinate with the A/E and Owner.

J. The HVAC system shall not be considered complete and acceptable unless, and until, all Code and Governing Agency requirements are satisfied.

### 1.03 STANDARDS OF QUALITY

- A. Contractor shall provide Work of the highest quality, conforming to the accepted practices and standards of the Trades involved.
- B. Further definition of quality is given by reference to various Laws, Codes, Standards, and Regulations.
- C. All work on this Project shall conform to applicable National, State, and Local Building Codes and any local laws, ordinances, regulations, and requirements pertaining to this work. Code references, when made, shall be based upon the currently enforced Edition.
- D. Any Law, Code, Standard, or Regulation referred to in other Sections of Division 23 is included in its entirety as a part of these Specifications.
- E. Give notice and comply with all Laws, Ordinances, Rules, Regulations, and lawful orders of the Code Authority having Jurisdiction bearing on the performance of the HVAC Work.
- F. The following Codes apply to this Work:
  - 1. State of Ohio: Ohio Administrative Code (OAC):
    - a. OAC 1301:7-7: 2007 Ohio Fire Code.
    - b. OAC 4101:1: 2007 Ohio Building Code.
    - c. OAC 4101:2: 2007 Ohio Mechanical Code.
    - d. OAC 4101:3: 2007 Ohio Plumbing Code.
    - e. OAC 4101:4: 2007 Boiler and Pressure Vessel Rules, including American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Sections listed in OAC Table 4101:4-3-01.
  - 2. National:
    - a. National Fire Protection Association (NFPA), Current Edition. Codes as listed in subsequent Specification Sections, including 2008 NFPA 70, “National Electric Code® (NEC).
    - b. Americans with Disabilities Act (ADA) (36 CFR 1191).
    - c. American Society of Mechanical Engineers (ASME) Welding Code B31.1.0.
- G. Licensed Contractors shall perform Work as required by State Codes.
- H. All equipment and appliances installed on this Project shall bear the label of an Approved Testing Agency, and shall be installed in accordance with the Manufacturer’s instructions for the labeled equipment and appliances.

- I. All structural steel used on this Project shall be manufactured in the United States, per Ohio Revised Code 153.011.
- J. Work shall comply with State Health Department requirements.

#### 1.04 CONTRACT DRAWINGS

- A. Drawings are schematic and show approximate locations, general arrangement, and extent of Work.
- B. The Contract Drawings are not intended to show every vertical or horizontal offset that may be necessary to complete the systems. Having piping, fittings, and ductwork fabricated and delivered in advance of making actual measurements shall not be sufficient cause to avoid making offsets or other changes as may be necessary to install piping and equipment.
- C. Verify exact locations in the field, and coordinate with all other Contractors.
- D. The A/E shall approve, in writing, significant deviations from the Drawings.
- E. The A/E reserves the right to make minor changes in location that do not require additional labor or material, up to the time of roughing-in, without additional cost. The A/E reserves the right to determine what is “significant” and what is “minor.”
- F. If a conflict occurs between the Drawings and Specifications, immediately submit a written request for an interpretation or clarification from the A/E, who shall determine which interpretation has precedence. Refer to Article 3.2 of the General Conditions.
- G. Should overlap of work among the Trades become evident, immediately submit a written request for an interpretation or clarification from the A/E, who shall determine which interpretation has precedence. Refer to Article 3.2 of the General Conditions. In such event, none of the Contractors shall assume that it is relieved of the Work that is specified under its branch unless instructions are received, in writing, from the A/E.

#### 1.05 EXAMINATION OF SITE

- A. Certain existing conditions may affect the manner or sequence of the performance of the Work. Existing services, structures, and operating schedules may need to be reviewed prior to bidding to facilitate the installation of the Work without disrupting the normal operation of the facility.
- B. Before submitting its Bid, the Contractor should visit the site of the proposed Project. After receipt of Bids, no allowances will be made for lack of knowledge of Project conditions.

- C. Verify and reconcile Work required by the Contract Documents with existing conditions at the Site.
- D. Should the Contractor note any discrepancies during the Bidding Period, it shall notify the A/E immediately, in writing, to permit issuance of an Addendum to prevent misunderstandings at a later date.

#### 1.06 APPLICABLE CODES, LICENSES, PERMITS, FEES, AND NOTICES

- A. The A/E will submit all Contract Drawings and Specifications to the State of Ohio Department of Commerce, Division of Industrial Compliance, Bureau of Construction Compliance, pay the application fee to secure Plan Approval, and obtain and pay for the Plan Approval Certificate.
- B. Secure and pay for the State building permit, and any ADDITIONAL permits, governmental fees, bonds, licenses, and inspections required for the proper execution and completion of the HVAC Work.
- C. It may be necessary to fully complete several portions of Work in one area, before other areas are started.
- D. Arrange and pay for all inspections required to obtain a Certificate of Beneficial Occupancy. Contractor shall include this cost in its bid.
- E. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, it shall promptly notify the A/E in writing, and any necessary changes will be arranged by the A/E.
- F. If the Contractor performs any Work knowing it to be contrary to such Laws, Ordinances, Rules, and Regulations, and fails to give prior notice to the A/E, the Contractor shall assume full responsibility for, and shall bear all costs associated with, correcting the Work.

#### 1.07 CONTRACTOR'S RESPONSIBILITY

- A. Provide a Superintendent, on site, whose duties include the directing and supervising of work. Inform the A/E of the Superintendent's name and phone number, and the method of contact when the Superintendent is not at the site.
- B. As soon as possible after the Award of the Contract and the approval of Shop Drawings, the Contractor shall place orders for materials and equipment required for its Work. Immediately inform the A/E in writing as to any materials and equipment that cannot be obtained within the required time period, either due to conditions of the market or other governing factors.
- C. Inspect each item of materials or equipment immediately prior to installation. Reject damaged and defective items.

- D. Contractor shall determine erection procedures and sequence the construction to keep its work on schedule and to ensure the safety of the building and its occupants. This includes supplying whatever temporary bracing, guys, or tie-downs might be required. Such materials shall remain the Contractor's property after completion of the Project.
- E. Provide attachment and connection devices and methods for securing work. Secure all work true to line and level and within recognized industry tolerances. Allow for expansion and building movement.
- F. Recheck measurements and dimensions of the Work as an integral step of starting each installation.
- G. Where mounting heights are not indicated, individual units generally can be mounted at industry-recognized standard mounting heights for the particular application indicated. However, the A/E must approve all mounting heights.
- H. Coordinate the enclosure or concealment of the Work with the required inspections and tests so as to minimize the necessity of uncovering work for that purpose.

#### 1.08 COORDINATION OF WORK

- A. Contractor shall coordinate its Work carefully with all other Contractors.
- B. Contractor shall read the entire Specification covering other branches of the Work. It will be held responsible for the coordination of its work with the work performed by other Trades.
- C. Coordinate location of all HVAC Work with sprinklers, piping, hangers, lighting fixtures, smoke and heat detectors, speakers, occupancy sensors, conduits, cable trays, bus ducts, and other equipment, and with ceilings, soffits, structural members, joists, purlins, metal decks, bracing, etc.
- D. Consult all Contract Drawings that may affect the location of any equipment, apparatus, piping, and ductwork, and make any other adjustments in location as necessary to secure coordination.
- E. Contractor shall be responsible for the cost of additional engineering work required for changes to the work as shown or described, due to the relocation of items requested by the Contractor.
- F. Do not install work without first coordinating the layout, routing, etc., with other Contractors whose work may be affected.
- G. Review all equipment nameplate ratings and advise the A/E immediately of any system design changes required to wire the equipment properly.

## 1.09 UTILITIES AND OUTAGES

- A. Locate and touch all existing utilities prior to construction. Where necessary to make minor relocations to permit installation of the HVAC Work, make all such relocations. Advise the A/E immediately of major conflicts to permit modification of the Contract Documents prior to bidding.
- B. Coordinate any utility service shutdowns or outages with the A/E and Owner. Conform to all Utility Company requirements. Avoid inconveniencing the Owner. Provide temporary service during the curtailment, if required by the A/E.
- C. Notify the Owner at least (2) working days in advance of commencing work in the area of existing utilities.
- D. Contractor shall alert occupants of nearby premises of any emergency conditions that arise as a result of its work in connection with existing utilities.
- E. Record the location of all concealed utilities on the Record Drawings.

## 1.10 RECORD DRAWINGS

- A. Maintain, at the job site, (1) set of the Drawings and Specifications that shall be used exclusively for documenting and recording the exact location of all installed Work.
- B. Record deviations in locations of concealed piping, valves, equipment, ductwork, and all buried or concealed utility services, piping, etc., dimensioned from a fixed control point, including depth of bury, at each change of direction, at each change of slope, and as required for further reference. Minor piping or ductwork variations need not be recorded. Record locations of abandoned piping or ductwork, including exterior lines.
- C. Record all Addendum and Change Order Items.
- D. Add valve tag numbers to Drawings.
- E. Record deviations made necessary to incorporate equipment different from the Design Base equipment.
- F. Contractor shall deliver (1) copy of its Record Drawings to the A/E.

## 1.11 GUARANTEE

- A. Contractor shall guarantee its equipment, workmanship, and materials for a period of (1) year from the date of Contract Completion. Should defects develop within this period, the Contractor shall, at no cost to the Owner, remedy the defects and reimburse the Owner for all damage to other Work caused either by the defects or as a result of the work of correcting the same.

- B. Refer also to Division 01 and other Specification Sections that define the starting date of the guarantee period, or that discuss either additional warranty requirements, or extended equipment warranties beyond the standard period.

## 1.12 ABBREVIATIONS AND SYMBOLS

- A. Titles and abbreviations may be used in these Specifications. Abbreviations may be shown on the HVAC Drawings. Refer to the list of abbreviations attached to this Section. Refer also to the symbols lists shown on the Drawings, and to the 2005 American Society of Heating, Refrigerating, and Air Conditioning Engineers Handbook (Chapter 37, “Fundamentals”) for further abbreviations. All titles and abbreviations may not necessarily apply to this Work.

## 1.13 DEFINITIONS

- A. “Provide”: To furnish, install, and connect to make completely ready for regular operation.
- B. “Furnish”: To supply or deliver to site complete with all required accessories and installation instructions.
- C. “Install: To mount, erect, hang, or fasten in place, and connect to make ready for regular operation.
- D. “Concealed”: Either embedded in masonry or other construction, or installed below floor slab, behind wall furring, within chases or soffits, within walls, within double partitions, above ceilings, in trenches, in tunnels, or within crawl spaces.
- E. “Exposed”: In full or partial view; not “Concealed” as defined above.
- F. “Accessible Ceiling”: Lay-in ceiling with removable ceiling tiles.
- G. “Piping”: Pipe, fitting, flanges, valves, controls, specialties, hangers, bracing, insulation, and other items required or necessary.
- H. “Ductwork”: Ducts and fittings, dampers, vanes, controls, hangers, bracing, insulation, and other items required or necessary.
- I. Refer to additional Definitions in Division 01 and in the State Building and Mechanical Codes.

## PART 2 PRODUCTS

### 2.01 DESIGN BASE MANUFACTURER STANDARD

- A. The Drawings and Specifications are based on the specific equipment requirements and configuration for a Design Base Manufacturer. Design coordination of equipment with the building and with other Trades has been made for this specific Model and Manufacturer of equipment. Where several Manufacturers are listed for an item of equipment or material, the first-named shall be considered the Design Base Manufacturer Standard.
- B. Consideration will not be given to any other Manufacturer that the Contractor proposes to use, unless the Manufacturer has been approved by the A/E and specifically named in the Contract Documents or Addenda thereto.

### 2.02 OTHER ACCEPTABLE COMPONENTS (MANUFACTURERS)

- A. Other Manufacturers listed in the Specifications shall be acceptable; however, whenever the Contractor elects to furnish specified equipment or material manufactured by other than the Design Base Manufacturer, the Contractor shall be responsible for the cost and coordination of all modifications required to accommodate the elected equipment or material, including any Work of other Trades that might be affected. Where changes to other Trades' Work are required, the Contractor shall include the additional costs of all such Work in its bid.
- B. Any specified Equipment Manufacturer furnished by the Contractor, other than the Design Base Manufacturer, shall be, in the opinion of the A/E, equivalent in quality, design, features, performance, arrangement, and appearance to that of the Design Base equipment or material, including any special features or requirements.
- C. The A/E will not give consideration to any Manufacturer that the Contractor proposes as a Substitution, unless the A/E approves the Manufacturer during the bid period, as provided for in Section 00 21 13, "Instructions to Bidders," Paragraph 2.4, and specifically names the Manufacturer in the Contract Documents or Addenda thereto.
- D. Where deemed necessary by the A/E, the Contractor shall, at no additional cost to the Owner, prepare layouts for these other brands of equipment that may have different dimensional or service requirements from the Design Base Manufacturer Standard. Submit these layouts to the Engineer for review.
- E. Reimburse the Owner for the cost of any design changes incurred by the A/E in the preparation of revised Drawings or Specifications to

accommodate the use of any Manufacturer other than the Design Base Manufacturer.

- F. The A/E will not give consideration to any other Manufacturer that the Contractor proposes to use, unless the A/E approves the Manufacturer, and specifically names the Manufacturer in the Addenda to the Specifications.

## 2.03 SUBSTITUTIONS

- A. Contractor shall submit information, in accordance with Section 00 21 13, Paragraph 2.5, on any proposed equipment or material that the Contractor desires to use as a Substitution.
- B. Contractor shall be responsible for the same costs of coordination and modifications, etc., listed above in Paragraph 2.02, "Other Acceptable Components (Manufacturers)."
- C. If the A/E determines that the proposed Manufacturer is acceptable, the A/E will issue an Addendum adding that Manufacturer to the Specification.

## 2.04 EQUIPMENT SUITABILITY

- A. All equipment provided shall perform as intended. All items listed shall function properly, and as the Manufacturer intended. Install equipment according to the Manufacturer's recommendations. Properly attach equipment to the floor, wall, or structure. Each item of equipment shall be compatible with all other accessories or hook-ups, including piping, ductwork, flues, controls, wiring, and other equipment not furnished by the equipment Manufacturer, but required to achieve the intended function.

## 2.05 MISCELLANEOUS ACCESSORIES

- A. Provide any additional adapters, fittings, trim, structural steel angles, channels, unistrut, brackets, etc., as necessary to securely install all items of equipment specified or shown on the Drawings. All steel installed outside or exposed to moisture shall be hot-dipped galvanized.
- B. These accessories are required even though they may not be shown or detailed on the Drawings.
- C. Installation shall be compatible with the building construction on which the item is to be located.
- D. Verify the type of construction prior to ordering the equipment item, so that all required accessories are included.

## 2.06 QUANTITIES

- A. Equipment may be referred to in these Specifications, or on the Drawings, as either singular or plural; the Contractor shall verify the exact number of items required to complete its Work.

## PART 3 EXECUTION

### 3.01 EQUIPMENT PROTECTION

- A. Unless equipment and material can be protectively stored in a manner acceptable to the A/E, they shall not be delivered to the site until the Work is ready to receive them.
- B. Protect all equipment and materials during construction from damage by weather, water, dirt, paint droppings, welding and cutting spatters, and other construction activities.
- C. All materials or equipment stored outside shall be elevated and protectively covered in a secured and locked area.
- D. Store materials and equipment sensitive to weather or construction conditions inside. Where necessary, store sensitive equipment in a heated area.
- E. During construction, cover all motors, bearings, controls, and other items that are susceptible to damage until they can be installed in place.
- F. Immediately repair or replace damaged equipment or materials to the satisfaction of the A/E and at no additional cost to the Owner.
- G. Contractor shall protect the building and other Contractors' material and equipment from damage caused by its Work. Protect floors from cutting oil and chips.
- H. Use all means necessary to protect materials before, during, and after installation.
- I. Refer also to individual Specification Sections for specialized protection.

### 3.02 SAFETY

- A. Maintain Project in accordance with Federal, State, and Local Safety and Insurance Standards. All procedures shall comply with the latest regulations of the Occupational Safety and Health Administration (OSHA).
- B. Contractor shall provide eye and ear protection, as approved by OSHA, for
- C. Contractor shall be solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs in connection with the Work. The Owner, Architect, or Engineer will not be responsible for the Contractor's failure to employ proper safety procedures.

- D. Contractor shall be solely responsible for the structural design of all temporary items that it uses in the construction of the building, or that become a permanent part of the building, including, but not limited to, hoisting, shoring for concrete and masonry work, the temporary bracing for structural steel, the shoring of cut earth banks, suspended ceilings, equipment, walls, etc.
- E. Exercise precaution for the protection of persons and property. Provide guard rails, barricades, enclosures, canopies, passageways, lanterns, warning lights, and other protective safety devices as necessary or required by the Code Authorities having Jurisdiction, and as required to protect persons and property against accidentally dropped materials or other construction hazards.
- F. Provide protection as may be required to prevent glass breakage. Replace broken glass at no cost to the Owner.
- G. Hazards Control:
  - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
  - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - 3. Prevent accumulation of waste that creates hazardous conditions.
  - 4. Provide adequate ventilation during use of volatile or noxious substances.

### 3.03 AIR HANDLING PLENUMS

- A. Where space is used for air handling, such as above ceilings and elsewhere, do not install combustible or noxious materials.
- B. All materials shall be listed for use in air handling plenums. All wiring shall be UL 910-listed.

### 3.04 EQUIPMENT ACCESS

- A. Locate all units to provide sufficient access to operate equipment, change filters, pull coils, or service other items requiring periodic maintenance. Coordinate with structure and with all other Contractors' work.

### 3.05 ACCESS PANELS

- A. Unless otherwise noted, furnish all access panels required for concealed HVAC work to the General Trades Contractor for installation as shown on

the Architectural Drawings.

B. Provide all other access panels as needed.

C. Mark locations of access panels on the Record Drawings.

### 3.06 BLOCK COURSE COORDINATION

A. The mounting heights of items are called out on the Drawings for many items. Adjust equipment mounting heights to accommodate brick or block coursing. Coordinate installation of all items in a masonry wall with the General Trades Contractor and A/E.

### 3.07 PAINTING AND RELATED WORK

A. ALL PAINTING SHALL BE DONE BY A QUALIFIED TRADESMAN SKILLED IN THE CRAFT.

B. General Trades Contractor shall be responsible for finish painting of walls, ceilings, and other Architectural items in the areas of new and existing construction.

C. Paint exposed piping, valves, etc.

D. Contractor shall repaint any previously finished areas or existing areas disturbed by its own cutting and patching. Painting of the patched area shall match color of the adjacent construction in the general area of the patch. Repaint the entire wall-to-wall and floor-to-ceiling surface if, in the opinion of the A/E, a uniform appearance cannot be accomplished by touch-up.

E. Clean, spot-prime with zinc chromate, and finish equal to the original quality any factory-finished equipment that has rusted, has been damaged, or has deteriorated. Repaint the entire surface if, in the opinion of the A/E, a uniform appearance cannot be accomplished by touch-up.

F. Clean all new insulation coverings. If pre-sized insulation is not used, insulation coverings shall be sized if finish painting is required.

G. Clean, remove rust from, and paint with zinc-chromate primer any HVAC support steel and bare ferrous metal, which is not factory-painted, shop-painted, or galvanized, and which remains exposed to view in the finished areas of the building, including mechanical rooms and storage rooms. Consult with General Trades Contractor to ensure that the prime coat shall be compatible with the finish coat.

H. Clean, remove rust from, and paint with zinc-chromate primer and aluminum-bronze paint all steel hangers, boxes, straps, and rods, furnished under this Contract, which are not provided with rust-protective finish or are damaged in installation, and which remain exposed to view or are in

unfinished and mechanical spaces.

- I. Paint with a prime coat any ferrous metal installed outside the building that is not factory-painted, shop-painted, or galvanized.
- J. Refer to Section 09 91 00 for additional requirements.

### 3.08 CLEANING

- A. Maintain all work areas in a neat and orderly manner, free of debris. Clean up all occupied travel areas at the end of each shift, or immediately after use for material removed.
- B. It is the intent of the Specifications that each Contractor and Subcontractor shall do its own cleanup, move materials that are in the way of construction, repair and replace any damage it does, and do any other work of a similar nature which must be done.
- C. Equipment cleaning and touch-up:
  - 1. Use only cleaning materials recommended by Manufacturer of the surface to be cleaned.
  - 2. Clean interiors of all enclosures of dirt and debris before installing trim or covers.
  - 3. Brush-clean, prime, and paint-in-kind rust spots on any part.
  - 4. Clean galvanized piping and ductwork in exposed areas with diluted acetic acid.
  - 5. Clean copper piping in exposed areas with fine emery cloth and solvent.
  - 6. Clean all gauges, thermometers, traps, dirt legs, strainers, and fittings.
- D. Final cleaning:
  - 1. Repair, patch, and touch up all scratched or damaged surfaces to specified finish to match adjacent surfaces, before final acceptance of the work. Repair dents and marred finishes to the satisfaction of the A/E. Prepare for finish painting, where painting is specified.
  - 2. Thoroughly clean all fixtures, material, finished surfaces of equipment, painted, enameled, or varnished work, and all other exposed finished surfaces, removing all labels, stickers, marks, stains, fingerprints, spots, rust, oil, grease, dirt, dust, and other foreign materials, so that the Work is presented in a complete and finished condition, ready for acceptance and intended use.
  - 3. Employ experienced workers, or professional cleaners, for final cleaning.
  - 4. Verify that all drains are free of debris.
  - 5. Expedite the cleaning, washing, waxing, and polishing required within other Sections of these Specifications.

E. Refer to Section 01 74 00, "Cleaning and Waste Management," for additional requirements.

### 3.09 TESTS AND INSPECTIONS

- A. The Contract Documents, Laws, Ordinances, Rules, Regulations, or Orders of any Code Authority having Jurisdiction may require portions of the Work to be inspected, tested, or approved.
- B. Arrange for inspection of the Work by the Code Authority having Jurisdiction. Inspections shall be conducted by the State of Ohio Department of Commerce, Division of Industrial Compliance, Construction Compliance Section.
- C. Notify the A/E of all scheduled tests and adjustments at least (48) hours before they are scheduled, so that the A/E may witness same. If the Contractor performs any test or adjustment without the A/E present, or without proper notification, the Contractor shall perform the test or adjustment a second time, in the presence of the A/E. Coordinate all test schedules with the Owner to minimize inconvenience.
- D. Concealed lines shall be tested and approved before being concealed. If a leak appears during the final test, repair the line and any damage resulting from the leak.
- E. After Work has been completed, but before pipe covering has been applied, test each system as required by other Sections of this Specification. At the test pressures, the circulation shall be free and the piping shall be proven free of leaks.
- F. Provide all required testing and obtain approvals. Secure required certificates of inspection, testing, or approval, and include them in the Operating and Maintenance manuals.
- G. Contractor shall bear all costs of such inspections, tests, or approvals.
- H. Should any of the Work be covered up or enclosed prior to completion of all required inspections and approvals, uncover the Work as required and, after it has been completely inspected and approved, make all repairs and replacements with such materials and workmanship as are necessary to secure the approval of the A/E, and at no additional cost to the Owner.
- I. Furnish all test pumps, gauges, equipment, and personnel required, and test as necessary, to demonstrate the integrity of the finished installation to the approval of the Code Authority having Jurisdiction and the A/E.
- J. Check each piece of equipment for defects and verify that all parts are properly furnished and installed, that all items function properly, and that all adjustments have been made.

### 3.10 FACTORY INSTALLATION AND START-UP

- A. For those items of equipment that are to be installed, tested, started up, and certified by a factory-trained Representative, furnish a letter from the Factory to the A/E stating that this service shall be provided for this Project, describing the scope of services to be provided, and disclosing the name of the Representative assigned to provide the required services.

END OF SECTION 23 05 00

## SECTION 26 05 00 COMMON WORK RESULTS FOR ELECTRICAL

### PART 1 GENERAL

#### 1.01 PREFACE

- A. Terminology: In the Sections listed above, the term “Contractor” shall mean the Electrical Contractor performing Work on this Project, unless otherwise noted.

#### 1.02 DESCRIPTION

- A. The Provisions listed in this Section are in addition to the requirements referenced in Paragraph 1.02 above. They are not meant to replace them, but they shall supersede any conflicting statements contained elsewhere in the Specifications. Contractor is responsible for the more restrictive requirement between these Division 26 General Provisions and other requirements contained elsewhere in the Specifications.
- B. Furnish material, labor, tools, accessories, and equipment to complete and leave ready for operation all electrical systems of this Project as described in these Specifications and as shown on the Drawings.
- C. It is the intent that the Electrical Work be complete in every respect. Install Work in compliance with the Latest Enforced Edition of all applicable Codes, Regulations, and Standards, unless otherwise noted. Obtain all permits, licenses, and certifications required by the Code Authority having Jurisdiction.
- D. Only a Contractor and craftsmen licensed by the State as required shall install this Electrical Work.
- E. Use sufficient journeymen electricians and competent supervisors in execution of this portion of the Work to ensure proper and adequate installation throughout. In the acceptance or rejection of installed electrical system, no allowance will be made for lack of skill on the part of workers.
- F. Shop drawings for the installation of an electrical system shall be submitted and reviewed by the Architect/Engineer (A/E) before any electrical system is installed, enlarged, or extended. Under NO circumstances shall any Work be performed prior to receiving shop drawings reviewed by the A/E.
- G. Coordinate location of all work with other Contractors and equipment.
- H. Maintain existing facilities in operation whenever possible. Occupied sections of the building will remain in use throughout construction. Coordinate with the A/E and Owner.

- I. The electrical system shall not be considered complete and acceptable unless, and until, all Code and Governing Agency requirements are satisfied.

### 1.03 STANDARDS OF QUALITY

- A. Contractor shall provide Work of the highest quality, conforming to the accepted practices and standards of the Trades involved
- B. Further definition of quality is given by reference to various Laws, Codes, Standards, and Regulations.
- C. All work on this Project shall conform to applicable National, State, and Local Building Codes and any local laws, ordinances, regulations, and requirements pertaining to this work. Code references, when made, shall be based upon the currently enforced Edition.
- D. Any Law, Code, Standard, or Regulation referred to in other Sections of Division 26 is included in its entirety as a part of these Specifications.
- E. Give notice and comply with all Laws, Ordinances, Rules, Regulations, and lawful orders of the Code Authority having Jurisdiction bearing on the performance of the Electrical Work.
- F. The following Codes apply to this Work:
  - 1. State of Ohio: Ohio Administrative Code (OAC) 4101:1: 2007 Ohio Building Code.
  - 2. National:
    - a. National Fire Protection Association (NFPA), Current Edition. Codes as listed in subsequent Specification Sections, including 2008 NFPA 70, “National Electric Code® (NEC).”
    - b. Americans with Disabilities Act (ADA) (36 CFR 1191).
- G. Licensed Contractors shall perform Work as required by State Codes.
- H. Only licensed and certified Fire Alarm Installers shall perform fire alarm Work.
- I. Methods and materials shall be certified where noted in the individual Specification Sections.
- J. All electrical equipment, fixtures, devices, and wiring shall be listed by Underwriters Laboratories, Inc.
- K. All equipment and appliances installed on this Project shall bear the label of an Approved Testing Agency, and shall be installed in accordance with the Manufacturer’s instructions for the labeled equipment and appliances.
- L. All structural steel used on this Project shall be manufactured in the United States, per Ohio Revised Code 153.011.

#### 1.04 CONTRACT DRAWINGS

- A. Drawings are schematic and show approximate locations, general arrangement, and extent of Work.
- B. Verify exact locations in the field, and coordinate with all other Contractors.
- C. The A/E shall approve, in writing, significant deviations from the Drawings.
- D. The A/E reserves the right to make minor changes in location that do not require additional labor or material, up to the time of roughing-in, without additional cost. The A/E reserves the right to determine what is “significant” and what is “minor.”
- E. If a conflict occurs between the Drawings and Specifications, immediately submit a written request for an interpretation or clarification from the A/E, who shall determine which interpretation has precedence. Refer to Article 3.2 of the General Conditions.
- F. Should overlap of work among the Trades become evident, immediately submit a written request for an interpretation or clarification from the A/E, who shall determine which interpretation has precedence. Refer to Article 3.2 of the General Conditions. In such event, none of the Contractors shall assume that it is relieved of the Work that is specified under its branch unless instructions are received, in writing, from the A/E.

#### 1.05 EXAMINATION OF SITE

- A. Certain existing conditions may affect the manner or sequence of the performance of the Work. Existing services, structures, and operating schedules may need to be reviewed prior to bidding to facilitate the installation of the Work without disrupting the normal operation of the facility.
- B. Before submitting its Bid, the Contractor should visit the site of the proposed Project. After receipt of Bids, no allowances will be made for lack of knowledge of Project conditions.
- C. Verify and reconcile Work required by the Contract Documents with existing conditions at the Site.
- D. Should the Contractor note any discrepancies during the Bidding Period, it shall notify the A/E immediately, in writing, to permit issuance of an Addendum to prevent misunderstandings at a later date.

#### 1.06 APPLICABLE CODES, LICENSES, PERMITS, FEES, AND NOTICES

- A. The A/E will submit all Contract Drawings and Specifications to the State of Ohio Department of Commerce, Division of Industrial Compliance, Bureau

- of Construction Compliance, pay the application fee to secure Plan Approval, and obtain and pay for the Plan Approval Certificate.
- B. Submit Fire Alarm drawings, battery calculations, and equipment cut sheets for approval to State of Ohio Department of Commerce, Division of Industrial Compliance, Division of State Fire Marshal, or other Code Authority having Jurisdiction.
  - C. Secure and pay for the State building permit, and any ADDITIONAL permits, governmental fees, bonds, licenses, and inspections required for the proper execution and completion of the Electrical Work.
  - D. Pay for all other fees and other charges related to Electrical Work and payable to Code Enforcement Agencies.
  - E. It may be necessary to fully complete several portions of Work in one area, before other areas are started.
  - F. Arrange and pay for all inspections required to obtain a Certificate of Beneficial Occupancy. Contractor shall include this cost in its bid.
  - G. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, it shall promptly notify the A/E in writing, and any necessary changes will be arranged by the A/E.
  - H. If the Contractor performs any Work knowing it to be contrary to such Laws, Ordinances, Rules, and Regulations, and fails to give prior notice to the A/E, the Contractor shall assume full responsibility for, and shall bear all costs associated with, correcting the Work.

#### 1.07 CONTRACTOR'S RESPONSIBILITY

- A. Provide a Superintendent, on site, whose duties include the directing and supervising of work. Inform the A/E of the Superintendent's name and phone number, and the method of contact when the Superintendent is not at the site.
- B. As soon as possible after the Award of the Contract and the approval of Shop Drawings, the Contractor shall place orders for materials and equipment required for its Work. Immediately inform the A/E in writing as to any materials and equipment that cannot be obtained within the required time period, either due to conditions of the market or other governing factors.
- C. Inspect each item of materials or equipment immediately prior to installation. Reject damaged and defective items.
- D. Contractor shall determine erection procedures and sequence the construction to keep its work on schedule and to ensure the safety of the building and its occupants. This includes supplying whatever temporary bracing, guys, or tie-downs might be required. Such materials shall remain

the Contractor's property after completion of the Project.

- E. Provide attachment and connection devices and methods for securing work. Secure all work true to line and level and within recognized industry tolerances. Allow for expansion and building movement.
- F. Recheck measurements and dimensions of the Work as an integral step of starting each installation.
- G. Where mounting heights are not indicated, individual units generally can be mounted at industry-recognized standard mounting heights for the particular application indicated. However, the A/E must approve all mounting heights.
- H. Coordinate the enclosure or concealment of the Work with the required inspections and tests so as to minimize the necessity of uncovering work for that purpose.

#### 1.08 COORDINATION OF WORK

- A. Contractor shall coordinate its Work carefully with all other Contractors.
- B. Contractor shall read the entire Specification covering other branches of the Work. It will be held responsible for the coordination of its work with the work performed by other Trades.
- C. Coordinate location of all Electrical Work with sprinklers, piping, hangers, ductwork, diffusers, grilles, registers, and other equipment, and with ceilings, soffits, structural members, joists, purlins, metal decks, bracing, etc.
- D. Consult all Contract Drawings that may affect the location of any equipment, devices, panels, and wiring and conduit, and make any other adjustments in location as necessary to secure coordination.
- E. Contractor shall be responsible for the cost of additional engineering work required for changes to the work as shown or described, due to the relocation of items requested by the Contractor.
- F. Do not install work without first coordinating the layout, routing, etc., with other Contractors whose work may be affected.
- G. Review all equipment nameplate ratings and advise the A/E immediately of any system design changes required to wire the equipment properly.

#### 1.09 RECORD DRAWINGS

- A. Maintain, at the job site, (1) set of Drawings and Specifications that shall be used exclusively for documenting and recording the exact location of all installed Work.
- B. Record deviations in locations of concealed conduit and wiring, equipment, and all buried or concealed utility services, etc., dimensioned from a fixed

control point, including depth of bury, and as required for further reference. Minor conduit and wiring variations need not be recorded. Record locations of abandoned conduit and wiring, including exterior lines.

- C. Record all Addendum and Change Order Items.
- D. Record deviations made necessary to incorporate equipment different from the Design Base equipment.
- E. Contractor shall deliver (1) copy of its Record Drawings to the A/E.

#### 1.10 GUARANTEE

- A. Contractor shall guarantee its equipment, workmanship, and materials for a period of (1) year from the date of Contract Completion. Should defects develop within this period, the Contractor shall, at no cost to the Owner, remedy the defects and reimburse the Owner for all damage to other Work caused either by the defects or as a result of the work of correcting the same.
- B. Refer also to Division 01 and other Specification Sections that define the starting date of the guarantee period, or that discuss either additional warranty requirements, or extended equipment warranties beyond the standard period.

#### 1.11 ABBREVIATIONS AND SYMBOLS

- A. Titles and abbreviations may be used in these Specifications. Abbreviations may be shown on the Electrical Drawings. Refer to the list of abbreviations attached to this Section. Refer also to the symbols lists shown on the Drawings for further abbreviations. All titles and abbreviations may not necessarily apply to this Work.

#### 1.12 DEFINITIONS

- A. "Provide": To furnish, install, and connect to make completely ready for regular operation.
- B. "Furnish": To supply or deliver to site complete with all required accessories and installation instructions.
- C. "Install": To mount, erect, hang, or fasten in place, and connect to make ready for regular operation.
- D. "Concealed": Either embedded in masonry or other construction, or installed below floor slab, behind wall furring, within chases or soffits, within walls, within double partitions, above ceilings, in trenches, in tunnels, or within crawl spaces.

- E. "Exposed": In full or partial view; not "Concealed" as defined above.
- F. "Accessible Ceiling": Lay-in ceiling with removable ceiling tiles.
- G. "Low Voltage": Systems or wiring operating at potentials less than 48 volts.
- H. Refer to additional Definitions in Division 01 and in the State Building Codes.

## PART 2 PRODUCTS

### 2.01 DESIGN BASE MANUFACTURER STANDARD

- A. The Drawings and Specifications are based on the specific equipment requirements and configuration for a Design Base Manufacturer. Design coordination of equipment with the building and with other Trades has been made for this specific Model and Manufacturer of equipment. Where several Manufacturers are listed for an item of equipment or material, the first-named shall be considered the Design Base Manufacturer Standard.
- B. Consideration will not be given to any other Manufacturer that the Contractor proposes to use, unless the Manufacturer has been approved by the A/E and specifically named in the Contract Documents or Addend thereto.

### 2.02 OTHER ACCEPTABLE COMPONENTS (MANUFACTURERS)

- A. Other Manufacturers listed in the Specifications shall be acceptable; however, whenever the Contractor elects to furnish specified equipment or material manufactured by other than the Design Base Manufacturer, the Contractor shall be responsible for the cost and coordination of all modifications required to accommodate the elected equipment or material, including any Work of other Trades that might be affected. Where changes to other Trades' Work are required, the Contractor shall include the additional costs of all such Work in its bid.
- B. Any specified Equipment Manufacturer furnished by the Contractor, other than the Design Base Manufacturer, shall be, in the opinion of the A/E, equivalent in quality, design, features, performance, arrangement, and appearance to that of the Design Base equipment or material, including any special features or requirements.
- C. Lighting Fixtures:
  - 1. Other Lighting Fixture Manufacturers shall provide the same room/area illumination levels as the minimum values recommended by Illuminating Engineering Society of North America and provided by the Design Base Manufacturer.
  - 2. Submit photometrics and illumination calculations to validate

performance of the fixtures in representative rooms or areas selected by the Engineer.

- D. The A/E will not give consideration to any Manufacturer that the Contractor proposes as a Substitution, unless the A/E approves the Manufacturer during the bid period, as provided for in Section 00 21 13, "Instructions to Bidders," Paragraph 2.4, and specifically names the Manufacturer in the Contract Documents or Addenda thereto.
- E. Where deemed necessary by the A/E, the Contractor shall, at no additional cost to the Owner, prepare layouts for these other brands of equipment that may have different dimensional or service requirements from the Design Base Manufacturer Standard. Submit these layouts to the Engineer for review.
- F. Reimburse the Owner for the cost of any design changes incurred by the A/E in the preparation of revised Drawings or Specifications to accommodate the use of any Manufacturer other than the Design Base Manufacturer.
- G. The A/E will not give consideration to any other Manufacturer that the Contractor proposes to use, unless the A/E approves the Manufacturer, and specifically names the Manufacturer in the Addenda to the Specifications.

## 2.03 SUBSTITUTIONS

- A. Contractor shall submit information, in accordance with Section 00 21 13, Paragraph 2.5, on any proposed equipment or material that the Contractor desires to use as a Substitution.
- B. Contractor shall be responsible for the same costs of coordination and modifications, etc., listed above in Paragraph 2.02, "Other Acceptable Components (Manufacturers)."
- C. If the A/E determines that the proposed Manufacturer is acceptable, the A/E will issue an Addendum adding that Manufacturer to the Specification.

## 2.04 EQUIPMENT SUITABILITY

- A. All equipment provided shall perform as intended. All items listed shall function properly, and as the Manufacturer intended. Install equipment according to the Manufacturer's recommendations. Properly attach equipment to the floor, wall, or structure. Each item of equipment shall be compatible with all other accessories or hook-ups, including controls, wiring, and other equipment not furnished by the equipment Manufacturer, but required to achieve the intended function.

## 2.05 MISCELLANEOUS ACCESSORIES

- A. Provide any additional adapters, fittings, trim, structural steel angles, channels, unistrut, brackets, etc., as necessary to securely install all items of equipment specified or shown on the Drawings. All steel installed outside or exposed to moisture shall be hot-dipped galvanized.
- B. These accessories are required even though they may not be shown or detailed on the Drawings.
- C. Installation shall be compatible with the building construction on which the item is to be located.
- D. Verify the type of construction prior to ordering the equipment item, so that all required accessories are included.

## 2.06 QUANTITIES

- A. Equipment may be referred to in these Specifications, or on the Drawings, as either singular or plural; the Contractor shall verify the exact number of items required to complete its Work.

## PART 3 EXECUTION

### 3.01 EQUIPMENT PROTECTION

- A. Unless equipment and material can be protectively stored in a manner acceptable to the A/E, they shall not be delivered to the site until the Work is ready to receive them.
- B. Protect all equipment and materials during construction from damage by weather, water, dirt, paint droppings, welding and cutting spatters, and other construction activities.
- C. All materials or equipment stored outside shall be elevated and protectively covered in a secured and locked area.
- D. Store materials and equipment sensitive to weather or construction conditions inside. Where necessary, store sensitive equipment in a heated area.
- E. During construction, cover all fixtures, panels, controls, equipment, and other items that are susceptible to damage until they can be installed in place.
- F. Immediately repair or replace damaged equipment or materials to the satisfaction of the A/E and at no additional cost to the Owner.
- G. Contractor shall protect the building and other Contractors' material and equipment from damage caused by its Work. Protect floors from cutting oil and chips.

- H. Use all means necessary to protect materials before, during, and after installation.
- I. Refer also to individual Specification Sections for specialized protection.

### 3.02 SAFETY

- A. Maintain Project in accordance with Federal, State, and Local Safety and Insurance Standards. All procedures shall comply with the latest regulations of the Occupational Safety and Health Administration (OSHA).
- B. Contractor shall provide eye and ear protection, as approved by OSHA, for each of its employees.
- C. Contractor shall be solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs in connection with the Work. The Owner, Architect, or Engineer will not be responsible for the Contractor's failure to employ proper safety procedures.
- D. Contractor shall be solely responsible for the structural design of all temporary items that it uses in the construction of the building, or that become a permanent part of the building, including, but not limited to, hoisting, shoring for concrete and masonry work, the temporary bracing for structural steel, the shoring of cut earth banks, suspended ceilings, equipment, walls, etc.
- E. Exercise precaution for the protection of persons and property. Provide guard rails, barricades, enclosures, canopies, passageways, lanterns, warning lights, and other protective safety devices as necessary or required by the Code Authorities having Jurisdiction, and as required to protect persons and property against accidentally dropped materials or other construction hazards. Provide guard lights at all barricades, railings, obstructions in the streets or sidewalks, trenches, or pits.
- F. Provide protection as may be required to prevent glass breakage. Replace broken glass at no cost to the Owner.
- G. Hazards Control:
  - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
  - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - 3. Prevent accumulation of waste that creates hazardous conditions.
  - 4. Provide adequate ventilation during use of volatile or noxious substances.
- H. Electrical Equipment Operation Safety: Make provisions for locking off and tagging out disconnect switches or other power control devices in

accordance with the requirements of Federal OSHA Regulations CFR 1910.147 and NFPA 70E, "Standard for Electrical Safety in the Workplace," Current Edition, Part II, Chapter 5.

### 3.03 AIR HANDLING PLENUMS

- A. Where space is used for air handling, such as above ceilings and elsewhere, do not install combustible or noxious materials.
- B. All materials shall be listed for use in air handling plenums. All wiring shall be UL 910-listed.

### 3.04 EQUIPMENT ACCESS

- A. Locate all units to provide sufficient access to operate equipment or service other items requiring periodic maintenance. Coordinate with structure and with all other Contractors' work.

### 3.05 ACCESS PANELS

- A. Unless otherwise noted, furnish all access panels required for concealed electrical work to the General Trades Contractor for installation as shown on the Architectural Drawings.
- B. Provide all other access panels as needed.
- C. Mark locations of access panels on the Record Drawings.

### 3.06 BLOCK COURSE COORDINATION

- A. The mounting heights of items are called out on the Drawings for many items. Adjust equipment mounting heights to accommodate brick or block coursing. Coordinate installation of all items in a masonry wall with the General Trades Contractor and A/E.

### 3.07 CUTTING AND PATCHING

- A. All cutting and patching shall be accomplished in a neat and workmanlike manner, acceptable to the A/E.
- B. Underground Conduit:
  - 1. Avoid the need to cut concrete by roughing in conduit BEFORE concrete is installed.
  - 2. Cut and replace the existing floor slab, exterior paving, or sidewalks,

as required to install underground work.

3. Contractor shall excavate and backfill for its own work.
4. Contractor shall be responsible for any other repairing of excavated areas.
5. Coordinate with the General Trades Contractor.

### 3.08 PAINTING AND RELATED WORK

- A. ALL PAINTING SHALL BE DONE BY A QUALIFIED TRADESMAN SKILLED IN THE CRAFT.
- B. General Trades Contractor shall be responsible for finish painting of walls, ceilings, and other Architectural items in the areas of new and existing construction.
- C. Contractor shall repaint any previously finished areas or existing areas disturbed by its own cutting and patching. Painting of the patched area shall match color of the adjacent construction in the general area of the patch. Repaint the entire wall-to-wall and floor-to-ceiling surface if, in the opinion of the A/E, a uniform appearance cannot be accomplished by touch-up.
- D. Clean, spot-prime with zinc chromate, and finish equal to the original quality any factory-finished equipment that has rusted, has been damaged, or has deteriorated. Repaint the entire surface if, in the opinion of the A/E, a uniform appearance cannot be accomplished by touch-up.
- E. Clean, remove rust from, and paint with zinc-chromate primer and aluminum-bronze paint all steel hangers, boxes, straps, and rods, furnished under this Contract, which are not provided with rust-protective finish or are damaged in installation, and which remain exposed to view or are in unfinished and mechanical spaces.
- F. Prime and paint all wood mounting panels with (2) coats gray flameproof paint, both sides and edges.
- G. Where painting has already been done, paint all conduits and Wiremold raceways that are later run exposed in "finished" areas. Color shall match structure, ceiling, or wall background.
- H. Paint all junction boxes containing fire alarm wiring red.
- I. Refer to Section 09 91 00 for additional requirements.

### 3.09 CLEANING

- A. Maintain all work areas in a neat and orderly manner, free of debris. Clean up all occupied travel areas at the end of each shift, or immediately after use for material removed.
- B. It is the intent of the Specifications that each Contractor and Subcontractor shall do its own cleanup, move materials that are in the way of construction,

repair and replace any damage it does, and do any other work of a similar nature which must be done.

C. Equipment cleaning and touch-up:

1. Use only cleaning materials recommended by Manufacturer of the surface to be cleaned.
2. Clean interiors of all enclosures of dirt and debris before installing trim or covers.
3. Brush-clean, prime, and paint-in-kind rust spots on any part.

D. Final cleaning:

1. Repair, patch, and touch up all scratched or damaged surfaces to specified finish to match adjacent surfaces, before final acceptance of the work. Repair dents and marred finishes to the satisfaction of the A/E. Prepare for finish painting, where painting is specified.
2. Thoroughly clean all fixtures, material, finished surfaces of equipment, painted, enameled, or varnished work, and all other exposed finished surfaces, removing all labels, stickers, marks, stains, fingerprints, spots, rust, oil, grease, dirt, dust, and other foreign materials, so that the Work is presented in a complete and finished condition, ready for acceptance and intended use.
3. Employ experienced workers, or professional cleaners, for final cleaning.
4. Expedite the cleaning, washing, waxing, and polishing required within other Sections of these Specifications.

E. Refer to Section 01 74 00, "Cleaning and Waste Management," for additional requirements.

### 3.10 TESTS AND INSPECTIONS

A. The Contract Documents, Laws, Ordinances, Rules, Regulations, or Orders of any Code Authority having Jurisdiction may require portions of the Work to be inspected, tested, or approved.

B. Test and check all alarm devices for proper operation. Submit a written record of these tests to the A/E.

C. Arrange for inspection of the Work by the Code Authority having Jurisdiction. Inspections shall be conducted by the following:

1. State of Ohio, Department of Commerce, Division of Industrial Compliance, Construction Compliance Section.
2. State of Ohio, Department of Commerce, State Fire Marshal Division.

D. Notify the A/E of all scheduled tests and adjustments at least (48) hours before they are scheduled, so that the A/E may witness same. If the

Contractor performs any test or adjustment without the A/E present, or without proper notification, the Contractor shall perform the test or adjustment a second time, in the presence of the A/E. Coordinate all test schedules with the Owner to minimize inconvenience.

- E. Provide all required testing and obtain approvals. Secure required certificates of inspection, testing, or approval, and include them in the Operating and Maintenance manuals.
- F. Contractor shall bear all costs of such inspections, tests, or approvals.
- G. Should any of the Work be covered up or enclosed prior to completion of all required inspections and approvals, uncover the Work as required and, after it has been completely inspected and approved, make all repairs and replacements with such materials and workmanship as are necessary to secure the approval of the A/E, and at no additional cost to the Owner.
- H. Furnish all meters, equipment, and personnel required, and test as necessary, to demonstrate the integrity of the finished installation to the approval of the Code Authority having Jurisdiction and the A/E.
- I. Check each piece of equipment for defects and shall verify that all parts are properly furnished and installed, that all items function properly, and that all adjustments have been made.

### 3.11 FACTORY INSTALLATION AND START-UP

- A. For those items of equipment that are to be installed, tested, started up, and certified by a factory-trained Representative, furnish a letter from the Factory to the A/E stating that this service shall be provided for this Project, describing the scope of services to be provided, and disclosing the name of the Representative assigned to provide the required services.

END OF SECTION 26 05 00