

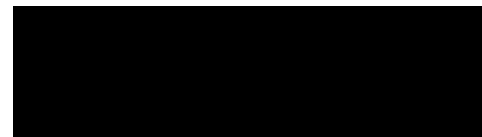


PROJECT MANUAL

Bid Set



240 Continental Drive, Suite 200
Newark, Delaware 19713





Colonial School District

William Penn High School
Innovation Center

Bid # 4-17-03

314 East Basin Road
New Castle, Delaware 19720



200-16101-16003

September 6, 2016

NOT FOR CONSTRUCTION

WILLIAM PENN HIGH SCHOOL – INNOVATION CENTER

**WILLIAM PENN HIGH SCHOOL
713 EAST BASIN ROAD
NEW CASTLE, DELAWARE 19720**

COLONIAL SCHOOL DISTRICT

BID # 4-17-03

PROJECT TEAM

OWNER:

Colonial School District
318 E. Basin Road
New Castle, DE 19720

CLIENT:

Colonial School District
318 E. Basin Road
New Castle, DE 19720

ARCHITECT

Tetra Tech Inc.
240 Continental Drive
Suite 200
Newark, DE 19713
Phone: 302-738-7551

Fax: 302-454-5989

MEP ENGINEER

Furlow Associates
1206 Society Drive
Claymont, DE 19703
Phone: 302-798-3515

Fax: 302-798-9799

PROJECT MANUAL

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PROJECT TEAM

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PROJECT FORWARD

1. **Project Description:** Herein is a partial summary of work as described on drawings and specifications for “**CSD – William Penn High School- Innovation Center:**”
 - The general scope of the project entails converting the existing library into an Innovation Center with a small library collection. The Center will consist of the following: an open space with flexible furniture and a mix of mobile and fixed bookshelves; a small café which will serve coffee and refreshments/ pastries, a distance learning classroom, a staff office and four collaborative/ study rooms.
 - Project will be constructed under a single prime contract with a General Contractor.
2. **Prequalification:** The following Contractors must be prequalified with the State of Delaware:
 - The General Contractor
 - The Mechanical Subcontractor
 - The Electrical Subcontractor
3. **Prebid Meeting:** A mandatory meeting will be held on Monday, September 19, 2016 at 1:00 p.m. at the Colonial School District’s Administrative Building, **318 East Basin Road, New Castle, DE 19720. Attendance is mandatory for all Prime Contractors.** Bids received from contractors not attending this meeting shall not be opened.
4. **Bids Due:** Sealed proposals will be received by the Owner for public opening until **2:00 p.m. local time on Tuesday, October 4, 2016** at the Colonial School District’s Administration Building, **318 E. Basin Rd., New Castle, DE 19720.** Proposals received after this time shall not be accepted. Bidders should be aware that the Owner reserves the right to reject all bids and/or negotiate with the low bidder.

Bid # 4-17-02 – CSD – William Penn High School – Innovation Center”

The time and place for the opening of bids may be extended from that described above or not less than two calendar days notice by certified delivery, facsimile machine, or other verifiable electronic means to those bidders who obtained copies of the plans and specifications.

5. **Project Identification: “CSD – William Penn High School – Innovation Center”:**

Project Location:

Colonial School District
William Penn High School
713 East Basin Road,
New Castle, Delaware 19720

Owner:

Colonial School District
318 East Basin Road,
New Castle, Delaware 19720

6. Contract Documents, dated September 6, 2016 were prepared for the Project by:

Architect

Tetra Tech Architects & Engineers
240 Continental Drive, Suite 200
Newark, DE 19713
302-738-7551 – Phone
302-454-5989 – Fax

Mechanical, Plumbing & Electrical Engineer

Furlow Associates
1206 Society Drive
Claymont, DE 19703
302-798-3515 – Phone
302-798-9799 – Fax

7. Availability of Documents: The contract documents (project manual and drawings) will be made available at the non-refundable cost of \$100.00 per set. The documents will be available for purchase at the Pre-bid meeting or at the architect's office after the Pre-bid meeting. Payment is to be made by check payable to the order of "Tetra Tech Architects & Engineers."
8. CONTRACT: Project will be constructed under a Single Prime Contract. Form of Contract will be AIA Document A101 Standard Form of Agreement between Owner and Contractor where the basis of payment is a STIPULATED SUM.
9. Wage Rates and Payroll Reporting: Contractors shall comply with all requirements of the State of Delaware regarding wage rates and payroll reporting. These requirements include, but are not limited to, the following:
- Wage Rates: The wage rates that shall be used for this project are attached to this Section. This scale of wages shall be posted in a prominent and easily accessible location on the job site. All employees shall be paid directly upon the site of the work, not less often than once a week.
 - Payroll Reporting: Per Section 6912 of Title 29, payroll information shall be reported weekly to the Delaware Department of Labor (refer to Section 01311 "Schedules and Reports").
10. Schedule
Timely execution of this project is a critical element of the Work.
Refer to "PROJECT SCHEDULE AND SEQUENCE" Section # 005010. Construction is to be completed during the 2016 summer break.
11. Liquidated Damages: The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner the sum hereinafter stipulated as liquidated damages for each calendar day of delay beyond the contracted date of substantial completion until the Work for the building is declared by the Architect to be substantially complete.

**CSD – William Penn High School – Innovation Center:
Two Thousand Dollars (\$2,000.00) per calendar day.**

12. Preference for Delaware Labor: Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d), subsection (4)b

“In the construction of all public works for the State or any political subdivision thereof, or by firms contracting with the State or any political subdivision thereof, preference in employment of laborers, workmen or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State. Each public works contract for the construction of public works for the State or any political subdivision thereof shall contain a stipulation that any person, company or corporation who violates this section shall pay a penalty to the Secretary of Finance equal to the amount of compensation paid to any person in violation of this section.”

Pursuant to the Office of Management and Budget (OMB) “4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects” requires that Contractors and Subcontractors who work on Large Public Works Contracts funded all or in part with public funds implement a Mandatory Drug Testing Program. The regulation can be downloaded from the following website:

<http://regulations.delaware.gov/register/september2015/final/19%20Del%20Reg%20207%2009-01-15.htm>

END OF PROJECT FOREWORD

STATE OF DELAWARE

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INSTRUCTIONS TO BIDDERS

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8. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

NOT FOR CONSTRUCTION

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ARTICLE 1: GENERAL

1.1 DEFINITIONS

1.1.1 Whenever the following terms are used, their intent and meaning shall be interpreted as follows:

1.2 STATE: The State of Delaware.

1.3 AGENCY: Contracting State Agency as noted on cover sheet.

1.4 DESIGNATED OFFICIAL: The agent authorized to act for the Agency.

1.5 BIDDING DOCUMENTS: Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement for Bid, Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the Bid Form (including the Non-collusion Statement), and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, as well as the Drawings, Specifications (Project Manual) and all Addenda issued prior to execution of the Contract.

1.6 CONTRACT DOCUMENTS: The Contract Documents consist of the, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the form of agreement between the Owner and the Contractor, Drawings (if any), Specifications (Project Manual), and all addenda.

1.7 AGREEMENT: The form of the Agreement shall be AIA Document A101, Standard Form of Agreement between Owner and Contractor where the basis of payment is a STIPULATED SUM. In the case of conflict between the instructions contained therein and the General Requirements herein, these General Requirements shall prevail.

1.8 GENERAL REQUIREMENTS (or CONDITIONS): General Requirements (or conditions) are instructions pertaining to the Bidding Documents and to contracts in general. They contain, in summary, requirements of laws of the State; policies of the Agency and instructions to bidders.

1.9 SPECIAL PROVISIONS: Special Provisions are specific conditions or requirements peculiar to the bidding documents and to the contract under consideration and are supplemental to the General Requirements. Should the Special Provisions conflict with the General Requirements, the Special Provisions shall prevail.

1.10 ADDENDA: Written or graphic instruments issued by the Owner/Architect prior to the execution of the contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

1.11 BIDDER OR VENDOR: A person or entity who formally submits a Bid for the material or

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Work contemplated, acting directly or through a duly authorized representative who meets the requirements set forth in the Bidding Documents.

- 1.12 SUB-BIDDER: A person or entity who submits a Bid to a Bidder for materials or labor, or both for a portion of the Work.
- 1.13 BID: A complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.
- 1.14 BASE BID: The sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids (if any are required to be stated in the bid).
- 1.15 ALTERNATE BID (or ALTERNATE): An amount stated in the Bid, where applicable, to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents is accepted.
- 1.16 UNIT PRICE: An amount stated in the Bid, where applicable, as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.
- 1.17 SURETY: The corporate body which is bound with and for the Contract, or which is liable, and which engages to be responsible for the Contractor's payments of all debts pertaining to and for his acceptable performance of the Work for which he has contracted.
- 1.18 BIDDER'S DEPOSIT: The security designated in the Bid to be furnished by the Bidder as a guaranty of good faith to enter into a contract with the Agency if the Work to be performed or the material or equipment to be furnished is awarded to him.
- 1.19 CONTRACT: The written agreement covering the furnishing and delivery of material or work to be performed.
- 1.20 CONTRACTOR: Any individual, firm or corporation with whom a contract is made by the Agency.
- 1.21 SUBCONTRACTOR: An individual, partnership or corporation which has a direct contract with a contractor to furnish labor and materials at the job site, or to perform construction labor and furnish material in connection with such labor at the job site.
- 1.22 CONTRACT BOND: The approved form of security furnished by the contractor and his surety as a guaranty of good faith on the part of the contractor to execute the work in accordance with the terms of the contract.

ARTICLE 2: BIDDER'S REPRESENTATIONS

2.1 PRE-BID MEETING

- 2.1.1 A pre-bid meeting for this project will be held at the time and place designated. Attendance

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at this meeting is a pre-requisite for submitting a Bid, unless this requirement is specifically waived elsewhere in the Bid Documents.

2.2 By submitting a Bid, the Bidder represents that:

2.2.1 The Bidder has read and understands the Bidding Documents and that the Bid is made in accordance therewith.

2.2.2 The Bidder has visited the site, become familiar with existing conditions under which the Work is to be performed, and has correlated the Bidder's his personal observations with the requirements of the proposed Contract Documents.

2.2.3 The Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception.

2.3 JOINT VENTURE REQUIREMENTS

2.3.1 For Public Works Contracts, each Joint Venture shall be qualified and capable to complete the Work with their own forces.

2.3.2 Included with the Bid submission, and as a requirement to bid, a copy of the executed Joint Venture Agreement shall be submitted and signed by all Joint Venturers involved.

2.3.3 All required Bid Bonds, Performance Bonds, Material and Labor Payment Bonds must be executed by both Joint Venturers and be placed in both of their names.

2.3.4 All required insurance certificates shall name both Joint Venturers.

2.3.5 Both Joint Venturers shall sign the Bid Form and shall submit a copy of a valid Delaware Business License with their Bid.

2.3.6 Both Joint Venturers shall include their Federal E.I. Number with the Bid.

2.3.7 In the event of a mandatory Pre-bid Meeting, each Joint Venturer shall have a representative in attendance.

2.3.8 Due to exceptional circumstances and for good cause shown, one or more of these provisions may be waived at the discretion of the State.

2.4 ASSIGNMENT OF ANTITRUST CLAIMS

2.4.1 As consideration for the award and execution by the Owner of this contract, the Contractor hereby grants, conveys, sells, assigns and transfers to the State of Delaware all of its right, title and interests in and to all known or unknown causes of action it presently has or may now or hereafter acquire under the antitrust laws of the United States and the State of Delaware, relating to the particular goods or services purchased or acquired by the Owner pursuant to this contract.

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ARTICLE 3: BIDDING DOCUMENTS

3.1 COPIES OF BID DOCUMENTS

- 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the Architectural/Engineering firm designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein.
- 3.1.2 Bidders shall use complete sets of Bidding Documents for preparation of Bids. The Issuing Agency nor the Architect assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 3.1.3 Any errors, inconsistencies or omissions discovered shall be reported to the Architect immediately.
- 3.1.4 The Agency and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

- 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall report any errors, inconsistencies, or ambiguities discovered to the Architect.
- 3.2.2 Bidders or Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Architect at least seven days prior to the date for receipt of Bids. Interpretations, corrections and changes to the Bidding Documents will be made by written Addendum. Interpretations, corrections, or changes to the Bidding Documents made in any other manner shall not be binding.
- 3.2.3 The apparent silence of the specifications as to any detail, or the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and only material and workmanship of the first quality are to be used. Proof of specification compliance will be the responsibility of the Bidder.
- 3.2.4 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all permits, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work.

- 3.2.5 The Owner will bear the costs for all impact and user fees associated with the project.

3.3 SUBSTITUTIONS

- 3.3.1 The materials, products and equipment described in the Bidding Documents establish a

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standard of quality, required function, dimension, and appearance to be met by any proposed substitution. The specification of a particular manufacturer or model number is not intended to be proprietary in any way. Substitutions of products for those named will be considered, providing that the Vendor certifies that the function, quality, and performance characteristics of the material offered is equal or superior to that specified. It shall be the Bidder's responsibility to assure that the proposed substitution will not affect the intent of the design, and to make any installation modifications required to accommodate the substitution.

3.3.2 Requests for substitutions shall be made in writing to the Architect at least ten days prior to the date of the Bid Opening. Such requests shall include a complete description of the proposed substitution, drawings, performance and test data, explanation of required installation modifications due the substitution, and any other information necessary for an evaluation. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval shall be final. The Architect is to notify Owner prior to any approvals.

3.3.3 If the Architect approves a substitution prior to the receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding.

3.3.4 The Architect shall have no obligation to consider any substitutions after the Contract award.

3.4 ADDENDA

3.4.1 Addenda will be mailed or delivered to all who are known by the Architect to have received a complete set of the Bidding Documents.

3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.4.3 No Addenda will be issued later than 4 days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which extends the time or changes the location for the opening of bids.

3.4.4 Each bidder shall ascertain prior to submitting his Bid that they have received all Addenda issued, and shall acknowledge their receipt in their Bid in the appropriate space. Not acknowledging an issued Addenda could be grounds for determining a bid to be non-responsive.

ARTICLE 4: BIDDING PROCEDURES

4.1 PREPARATION OF BIDS

4.1.1 Submit the bids on the Bid Forms included with the Bidding Documents.

4.1.2 Submit the original Bid Form for each bid. Bid Forms may be removed from the project manual for this purpose.

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- 4.1.3 Execute all blanks on the Bid Form in a non-erasable medium (typewriter or manually in ink).
- 4.1.4 Where so indicated by the makeup on the Bid Form, express sums in both words and figures, in case of discrepancy between the two, the written amount shall govern.
- 4.1.5 Interlineations, alterations or erasures must be initialed by the signer of the Bid.
- 4.1.6 **BID ALL REQUESTED ALTERNATES AND UNIT PRICES, IF ANY.** If there is no change in the Base Bid for an Alternate, enter “No Change”. The Contractor is responsible for verifying that they have received all addenda issued during the bidding period. Work required by Addenda shall automatically become part of the Contract.
- 4.1.7 Make no additional stipulations on the Bid Form and do not qualify the Bid in any other manner.
- 4.1.8 Each copy of the Bid shall include the legal name of the Bidder and a statement whether the Bidder is a sole proprietor, a partnership, a corporation, or any legal entity, and each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current Power of Attorney attached, certifying agent's authority to bind the Bidder.
- 4.1.9 Bidder shall complete the Non-Confusion Statement form included with the Bid Forms and include it with their Bid.
- 4.1.10 In the construction of all Public Works projects for the State of Delaware or any agency thereof, preference in employment of laborers, workers or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State.
- 4.1.11 Each Bidder shall include in their bid a copy of a valid Delaware Business License.
- 4.1.12 Each bidder shall include signed Affidavit(s) for the Bidder and each listed Subcontractor certifying compliance with OMB Regulation 4104- “Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on “Large Public Works Projects.” “Large Public Works” is based upon the current threshold required for bidding Public Works as set by the Purchasing and Contracting Advisory Council.

4.2 **BID SECURITY**

- 4.2.1 All bids shall be accompanied by a deposit of either a good and sufficient bond to the agency for the benefit of the agency, with corporate surety authorized to do business in this State, the form of the bond and the surety to be approved by the agency, or a security of the bidder assigned to the agency, for a sum equal to at least 10% of the bid plus all add alternates, or in lieu of the bid bond a security deposit in the form of a certified check, bank treasurer’s check, cashier’s check, money order, or other prior approved secured deposit assigned to the State. The bid bond need not be for a specific sum, but may be stated to be for a sum equal to 10% of the bid plus all add alternates to which it relates and not to

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exceed a certain stated sum, if said sum is equal to at least 10% of the bid. The Bid Bond form used shall be the standard OMB form (attached).

4.2.2 The Agency has the right to retain the bid security of Bidders to whom an award is being considered until either a formal contract has been executed and bonds have been furnished or the specified time has elapsed so the Bids may be withdrawn or all Bids have been rejected.

4.2.3 In the event of any successful Bidder refusing or neglecting to execute a formal contract and bond within 20 days of the awarding of the contract, the bid bond or security deposited by the successful bidder shall be forfeited.

4.3 SUBCONTRACTOR LIST

4.3.1 As required by Delaware Code, Title 29, section 6962(d)(1)(b), each Bidder shall submit with their Bid a completed List of Sub-Contractors included with the Bid Form. NAME ONLY ONE SUBCONTRACTOR FOR EACH TRADE. A Bid will be considered non-responsive unless the completed list is included.

4.3.2 Provide the Name and Address for each listed subcontractor. Addresses by City, Town or Locality, plus State, will be acceptable.

4.3.3 It is the responsibility of the Contractor to ensure that their Subcontractors are in compliance with the provisions of this law. Also, if a Contractor elects to list themselves as a Subcontractor for any category, they must specifically name themselves on the Bid Form and be able to document their capability to act as Subcontractor in that category in accordance with this law.

4.4 EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

4.4.1 During the performance of this contract, the contractor agrees as follows:

A. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, sexual orientation, gender identity or national origin. The Contractor will take affirmative action to ensure the applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, sex or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.

B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex or national origin."

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4.5 PREVAILING WAGE REQUIREMENT

- 4.5.1 Wage Provisions: In accordance with Delaware Code, Title 29, Section 6960, renovation projects whose total cost shall exceed \$15,000, and \$100,000 for new construction, the minimum wage rates for various classes of laborers and mechanics shall be as determined by the Department of Labor, Division of Industrial Affairs of the State of Delaware.
- 4.5.2 The prevailing wage shall be the wage paid to a majority of employees performing similar work as reported in the Department's annual prevailing wage survey or in the absence of a majority, the average paid to all employees reported.
- 4.5.3 The employer shall pay all mechanics and labors employed directly upon the site of work, unconditionally and not less often than once a week and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the specifications, regardless of any contractual relationship which may be alleged to exist between the employer and such laborers and mechanics.
- 4.5.4 The scale of the wages to be paid shall be posted by the employer in a prominent and easily accessible place at the site of the work.
- 4.5.5 Every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.

4.6 SUBMISSION OF BIDS

- 4.6.1 Enclose the Bid, the Bid Security, and any other documents required to be submitted with the Bid in a sealed opaque envelope. Address the envelope to the party receiving the Bids. Identify with the project name, project number, and the Bidder's name and address. If the Bid is sent by mail, enclose the sealed envelope in a separate mailing envelope with the notation "BID ENCLOSED" on the face thereof. The State is not responsible for the opening of bids prior to bid opening date and time that are not properly marked.
- 4.6.2 Deposit Bids at the designated location prior to the time and date for receipt of bids indicated in the Advertisement for Bids. Bids received after the time and date for receipt of bids will be marked "LATE BID" and returned.
- 4.6.3 Bidder assumes full responsibility for timely delivery at location designated for receipt of bids.
- 4.6.4 Oral, telephonic or telegraphic bids are invalid and will not receive consideration.
- 4.6.5 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids, provided that they are then fully in compliance with these Instructions to Bidders.

4.7 MODIFICATION OR WITHDRAW OF BIDS

- 4.7.1 Prior to the closing date for receipt of Bids, a Bidder may withdraw a Bid by personal

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request and by showing proper identification to the Architect. A request for withdraw by letter or fax, if the Architect is notified in writing prior to receipt of fax, is acceptable. A fax directing a modification in the bid price will render the Bid informal, causing it to be ineligible for consideration of award. Telephone directives for modification of the bid price shall not be permitted and will have no bearing on the submitted proposal in any manner.

4.7.2 Bidders submitting Bids that are late shall be notified as soon as practicable and the bid shall be returned.

4.7.3 A Bid may not be modified, withdrawn or canceled by the Bidder during a thirty (30) day period following the time and date designated for the receipt and opening of Bids, and Bidder so agrees in submitting their Bid. Bids shall be binding for 30 days after the date of the Bid opening.

ARTICLE 5: CONSIDERATION OF BIDS

5.1 OPENING/REJECTION OF BIDS

5.1.1 Unless otherwise stated, Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids will be made available to Bidders.

5.1.2 The Agency shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

5.1.3 If the Bids are rejected, it will be done within thirty (30) calendar day of the Bid opening.

5.2 COMPARISON OF BIDS

5.2.1 After the Bids have been opened and read, the bid prices will be compared and the result of such comparisons will be made available to the public. Comparisons of the Bids may be based on the Base Bid plus desired Alternates. The Agency shall have the right to accept Alternates in any order or combination.

5.2.2 The Agency reserves the right to waive technicalities, to reject any or all Bids, or any portion thereof, to advertise for new Bids, to proceed to do the Work otherwise, or to abandon the Work, if in the judgment of the Agency or its agent(s), it is in the best interest of the State.

5.2.3 An increase or decrease in the quantity for any item is not sufficient grounds for an increase or decrease in the Unit Price.

5.2.4 The prices quoted are to be those for which the material will be furnished F.O.B. Job Site and include all charges that may be imposed during the period of the Contract.

5.2.5 No qualifying letter or statements in or attached to the Bid, or separate discounts will be considered in determining the low Bid except as may be otherwise herein noted. Cash or separate discounts should be computed and incorporated into Unit Bid Price(s).

5.3 DISQUALIFICATION OF BIDDERS

5.3.1 An agency shall determine that each Bidder on any Public Works Contract is responsible before awarding the Contract. Factors to be considered in determining the responsibility of a Bidder include:

- A. The Bidder's financial, physical, personnel or other resources including Subcontracts;
- B. The Bidder's record of performance on past public or private construction projects, including, but not limited to, defaults and/or final adjudication or admission of violations of the Prevailing Wage Laws in Delaware or any other state;
- C. The Bidder's written safety plan;
- D. Whether the Bidder is qualified legally to contract with the State;
- E. Whether the Bidder supplied all necessary information concerning its responsibility; and,
- F. Any other specific criteria for a particular procurement, which an agency may establish; provided however, that, the criteria be set forth in the Invitation to Bid and is otherwise in conformity with State and/or Federal law.

5.3.2 If an agency determines that a Bidder is nonresponsive and/or nonresponsible, the determination shall be in writing and set forth the basis for the determination. A copy of the determination shall be sent to the affected Bidder within five (5) working days of said determination.

5.3.3 In addition, any one or more of the following causes may be considered as sufficient for the disqualification of a Bidder and the rejection of their Bid or Bids.

5.3.3.1 More than one Bid for the same Contract from an individual, firm or corporation under the same or different names.

5.3.3.2 Evidence of collusion among Bidders.

5.3.3.3 Unsatisfactory performance record as evidenced by past experience.

5.3.3.4 If the Unit Prices are obviously unbalanced either in excess or below reasonable cost analysis values.

5.3.3.5 If there are any unauthorized additions, interlineation, conditional or alternate bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite or ambiguous as to its meaning.

5.3.3.6 If the Bid is not accompanied by the required Bid Security and other data required by the

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Bidding Documents.

5.3.3.7 If any exceptions or qualifications of the Bid are noted on the Bid Form.

5.4 ACCEPTANCE OF BID AND AWARD OF CONTRACT

5.4.1 A formal Contract shall be executed with the successful Bidder within twenty (20) calendar days after the award of the Contract.

5.4.2 Per Section 6962(d)(13) a., Title 29, Delaware Code, “The contracting agency shall award any public works contract within thirty (30) days of the bid opening to the lowest responsive and responsible Bidder, unless the Agency elects to award on the basis of best value, in which case the election to award on the basis of best value shall be stated in the Invitation To Bid.”

5.4.3 Each Bid on any Public Works Contract must be deemed responsive by the Agency to be considered for award. A responsive Bid shall conform in all material respects to the requirements and criteria set forth in the Contract Documents and specifications.

5.4.4 The Agency shall have the right to accept Alternates in any order or combination, and to determine the low Bidder on the basis of the sum of the Base Bid, plus accepted Alternates.

5.4.5 The successful Bidder shall execute a formal contract, submit the required Insurance Certificate, and furnish good and sufficient bonds, unless specifically waived in the General Requirements, in accordance with the General Requirement, within twenty (20) days of official notice of contract award. The successful Bidder shall provide two business days prior to contract execution, copies of the Employee Drug Testing Program for the Bidder and all listed Subcontractors. Bonds shall be for the benefit of the Agency with surety in the amount of 100% of the total contract award. Said Bonds shall be conditioned upon the faithful performance of the contract. Bonds shall remain in affect for period of one year after the date of substantial completion.

5.4.6 If the successful Bidder fails to execute the required Contract, Bond and all required information, as aforesaid, within twenty (20) calendar days after the date of official Notice of the Award of the Contract, their Bid guaranty shall immediately be taken and become the property of the State for the benefit of the Agency as liquidated damages, and not as a forfeiture or as a penalty. Award will then be made to the next lowest qualified Bidder of the Work or readvertised, as the Agency may decide.

5.4.7 Each bidder shall supply with its bid its taxpayer identification number (i.e., federal employer identification number or social security number) and a copy of its Delaware business license, and should the vendor be awarded a contract, such vendor shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract, copies of all Delaware Business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after

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the Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

- 5.4.8 The Bid Security shall be returned to the successful Bidder upon the execution of the formal contract. The Bid Securities of unsuccessful bidders shall be returned within thirty (30) calendar days after the opening of the Bids.

ARTICLE 6: POST-BID INFORMATION

6.1 CONTRACTOR'S QUALIFICATION STATEMENT

- 6.1.1 Bidders to whom award of a Contract is under consideration shall, if requested by the Agency, submit a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a statement has been previously required and submitted.

6.2 BUSINESS DESIGNATION FORM

- 6.2.1 Successful bidder shall be required to accurately complete an Office of Management and Budget Business Designation Form for Subcontractors.

ARTICLE 7: PERFORMANCE BOND AND PAYMENT BOND

7.1 BOND REQUIREMENTS

- 7.1.1 The cost of furnishing the required Bonds that are stipulated in the Bidding Documents, shall be included in the Bid.

- 7.1.2 If the Bidder is required by the Agency to secure a bond from other than the Bidder's usual sources, changes in cost will be adjusted as provide in the Contract Documents.

- 7.1.3 The Performance and Payment Bond forms used shall be the standard OMB forms (attached).

7.2 TIME OF DELIVERY AND FORM OF BONDS

- 7.2.1 The bonds shall be dated on or after the date of the Contract.

- 7.2.2 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix a certified and current copy of the power of attorney.

ARTICLE 8: FORM OF AGREEMENT BETWEEN AGENCY AND CONTRACTOR

- 8.1 Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment is a Stipulated Sum.

END OF SECTION

BID FORM

For Bids Due: October 4, 2016

To: Colonial School District

318 E. Basin Road
New Castle, DE 19720

Name of Bidder: _____

Delaware Business License No.: _____ **Taxpayer ID No.:** _____
(A copy of a Bidders Delaware Business License must be attached to this form)

(Other License Nos.): _____

Phone No.: () _____ - _____ **Fax No.:** () _____ - _____

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID:
\$ _____
(\$ _____)

ALTERNATES

Alternate prices conform to applicable project specification section. Refer to specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossed out part that does not apply.

ALTERNATE No. 1: _____ **(BRIEF DESCRIPTION)**

Add/Deduct: _____
(\$ _____)

ALTERNATE No. 2: _____ **(BRIEF DESCRIPTION)**

Add/Deduct: _____
(\$ _____)

ALTERNATE No. 3: _____ **(BRIEF DESCRIPTION)**

Add/Deduct: _____
(\$ _____)

BID FORM

UNIT PRICES

Unit prices conform to applicable project specification section. Refer to the specifications for a complete description of the following Unit Prices:

		<u>ADD</u>	<u>DEDUCT</u>
UNIT PRICE No. 1:	_____ (BRIEF DESCRIPTION) _____	\$ _____	\$ _____
UNIT PRICE No. 2:	_____ (BRIEF DESCRIPTION) _____	\$ _____	\$ _____
UNIT PRICE No. 3:	_____ (BRIEF DESCRIPTION) _____	\$ _____	\$ _____

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BID FORM

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for thirty (30) days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within _____ calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(SEAL) (Authorized Signature)

(Title)
Date: _____

- ATTACHMENTS**
- Sub-Contractor List
 - Non-Collusion Statement
 - Affidavit(s) of Employee Drug Testing Program
 - Bid Security
 - (Others as Required by Project Manuals)

BID FORM

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor **must be listed for each category** where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the *Owner*, **it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work.** This form must be filled out completely with no additions or deletions. **Note that all subcontractors listed below must have a signed Affidavit of Employee Drug Testing Program included with this bid.**

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax payer ID # or Delaware Business license #</u>
1. MECHANICAL	_____	_____	_____
2. ELECTRICAL	_____	_____	_____
3. CASEWORK	_____	_____	_____
4. FIRE ALARM	_____	_____	_____
5. CONTROLS	MODERN CONTROL	NEW CASTLE, DE	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____

NOT FOR CONSTRUCTION

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the Office of Management and Budget, Division of Facilities Management).

All the terms and conditions of (Project or Contract Number) have been thoroughly examined and are understood.

NAME OF BIDDER: _____

AUTHORIZED REPRESENTATIVE (TYPED): _____

AUTHORIZED REPRESENTATIVE (SIGNATURE): _____

TITLE: _____

ADDRESS OF BIDDER: _____

E-MAIL: _____

PHONE NUMBER: _____

Sworn to and Subscribed before me this _____ day of _____ 20_____.

My Commission expires _____ . NOTARY PUBLIC _____.

NOT FOR CONSTRUCTION

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

BID FORM

**AFFIDAVIT
OF
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite that complies with this regulation:

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

STATE OF DELAWARE
OFFICE OF MANAGEMENT AND BUDGET

BID BOND

TO ACCOMPANY PROPOSAL
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: _____
_____ of _____ in the County of _____
_____ and State of _____ as **Principal**, and _____
_____ of _____ in the County of _____
and State of _____ as **Surety**, legally authorized to do business in the State of Delaware
("State"), are held and firmly unto the **State** in the sum of _____
_____ Dollars (\$ _____), or _____ percent not to exceed _____
_____ Dollars (\$ _____)
of amount of bid on Contract No. BID# 4-17-03, to be paid to the **State** for the use and benefit of
_____ (*insert State agency name*) for which payment well and
truly to be made, we do bind ourselves, our and each of our heirs, executors, administrators, and successors,
jointly and severally for and in the whole firmly by these presents

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bonded **Principal**
who has submitted to the _____ (*insert State agency name*) a
certain proposal to enter into this contract for the furnishing of certain material and/or services within the
State, shall be awarded this Contract, and if said **Principal** shall well and truly enter into and execute this
Contract as may be required by the terms of this Contract and approved by the _____
_____ (*insert State agency name*) this Contract to be entered into within twenty days after
the date of official notice of the award thereof in accordance with the terms of said proposal, then this
obligation shall be void or else to be and remain in full force and virtue.

Sealed with _____ seal and dated this _____ day of _____ in the year of our Lord two
thousand and _____ (20____).

SEALED, AND DELIVERED IN THE
Presence of

Name of Bidder (Organization)

Corporate
Seal

By:

Authorized Signature

Attest _____

Title

Name of Surety

Witness: _____

By: _____

Title

STATE OF DELAWARE

DIVISION OF FACILITIES MANAGEMENT

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR A101-2007

The contract to be utilized on this project shall be the “Standard Form of Agreement Between Owner and Contractor” AIA Document A101-2007.

NOT FOR CONSTRUCTION



AIA® Document A101™ – 2007

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

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

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

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

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

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

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

AIA Document A201™–2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

NOT FOR CONSTRUCTION

Init.

User Notes:

(1248219460)

TABLE OF ARTICLES

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

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows:

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

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than () days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

Portion of Work

Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.
(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

ARTICLE 4 CONTRACT SUM

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

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 4.3 Unit prices, if any:
(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.4 Allowances included in the Contract Sum, if any.
(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price
------	-------

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

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

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than () days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

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

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

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of _____ percent (_____ %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment (delivered and suitably stored at the site for subsequent incorporation in the completed construction or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of _____ percent (_____ %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201–2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007.

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

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

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

§ 5.2 FINAL PAYMENT

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

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201–2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

Init.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 BINDING DISPUTE RESOLUTION

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A201–2007, the method of binding dispute resolution shall be as follows:

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

- Arbitration pursuant to Section 15.4 of AIA Document A201–2007
- Litigation in a court of competent jurisdiction
- Other *(Specify)*

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

%

§ 8.3 The Owner's representative:
(Name, address and other information)

§ 8.4 The Contractor's representative:
(Name, address and other information)

Init.

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201-2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

§ 9.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

Section	Title	Date	Pages
---------	-------	------	-------

§ 9.1.5 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

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

§ 9.1.6 The Addenda, if any:

Number	Date	Pages
--------	------	-------

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

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 AIA Document E201™-2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:

.2 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201-2007 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents)

Init.

unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201-2007.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201-2007.)

Type of insurance or bond

Limit of liability or bond amount (\$0.00)

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

OWNER (Signature)

CONTRACTOR (Signature)

(Printed name and title)

(Printed name and title)

NOT FOR CONSTRUCTION

Init.

STATE OF DELAWARE

DIVISION OF FACILITIES MANAGEMENT

SUPPLEMENT TO AGREEMENT BETWEEN OWNER AND CONTRACTOR A101-2007

The following supplements modify the "Standard Form of Agreement Between Owner and Contractor," AIA Document A101-2007. Where a portion of the Standard Form of Agreement is modified or deleted by the following, the unaltered portions of the Standard Form of Agreement shall remain in effect.

ARTICLE 5: PAYMENTS

5.1 PROGRESS PAYMENTS

5.1.3 Delete paragraph 5.1.3 in its entirety and replace with the following:

"Provided that a valid Application for Payment is received by the Architect that meets all requirements of the Contract, payment shall be made by the Owner not later than 30 days after the Owner receives the valid Application for Payment."

ARTICLE 6: DISPUTE RESOLUTION

6.2 BINDING DISPUTE RESOLUTION

Check Other – and add the following sentence:

"Any remedies available in law or in equity."

ARTICLE 8: MISCELLANEOUS PROVISIONS

8.2 Insert the following:

"Payments are due 30 days after receipt of a valid Application for Payment. After that 30 day period, interest may be charged at the rate of 1% per month not to exceed 12% per annum."

8.5 Delete paragraph 8.5 in its entirety and replace with the following:

"The Contractor's representative shall not be changed without ten days written notice to the Owner."

END OF SECTION 005413

STATE OF DELAWARE
OFFICE OF MANAGEMENT AND BUDGET

PERFORMANCE BOND

Bond Number: _____

KNOW ALL PERSONS BY THESE PRESENTS, that we, _____, a principal (“**Principal**”), and _____, a _____ corporation, legally authorized to do business in the State of Delaware, as surety (“**Surety**”), are held and firmly bound unto the _____ (“**Owner**”) (*insert State agency name*), in the amount of _____ (\$_____), to be paid to **Owner**, for which payment well and truly to be made, we do bind ourselves, our and each and every of our heirs, executors, administrations, successors and assigns, jointly and severally, for and in the whole, firmly by these presents.

Sealed with our seals and dated this _____ day of _____, 20__.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if **Principal**, who has been awarded by **Owner** that certain contract known as Contract No. #4-17-03 dated the _____ day of _____, 20__ (the “Contract”), which Contract is incorporated herein by reference, shall well and truly provide and furnish all materials, appliances and tools and perform all the work required under and pursuant to the terms and conditions of the Contract and the Contract Documents (as defined in the Contract) or any changes or modifications thereto made as therein provided, shall make good and reimburse **Owner** sufficient funds to pay the costs of completing the Contract that **Owner** may sustain by reason of any failure or default on the part of **Principal**, and shall also indemnify and save harmless **Owner** from all costs, damages and expenses arising out of or by reason of the performance of the Contract and for as long as provided by the Contract; then this obligation shall be void, otherwise to be and remain in full force and effect.

Surety, for value received, hereby stipulates and agrees, if requested to do so by **Owner**, to fully perform and complete the work to be performed under the Contract pursuant to the terms, conditions and covenants thereof, if for any cause **Principal** fails or neglects to so fully perform and complete such work.

Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of **Surety** and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition or change in or to the Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any work to be performed or any monies due or to become due thereunder; and **Surety** hereby waives notice of any and all such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other

transferees shall have the same effect as to **Surety** as though done or omitted to be done by or in relation to **Principal**.

Surety hereby stipulates and agrees that no modifications, omissions or additions in or to the terms of the Contract shall in any way whatsoever affect the obligation of **Surety** and its bond.

Any proceeding, legal or equitable, under this Bond may be brought in any court of competent jurisdiction in the State of Delaware. Notices to **Surety** or Contractor may be mailed or delivered to them at their respective addresses shown below.

IN WITNESS WHEREOF, **Principal** and **Surety** have hereunto set their hand and seals and such of them as are corporations have caused their corporate seal to be hereto affixed and these presents to be signed by their duly authorized officers, the day and year first above written.

PRINCIPAL

Name: _____

Witness or Attest: Address: _____

Name:

By: _____ (SEAL)
Name:
Title:

(Corporate Seal)

SURETY

Name: _____

Witness or Attest: Address: _____

Name:

By: _____ (SEAL)
Name:
Title:

(Corporate Seal)

STATE OF DELAWARE
OFFICE OF MANAGEMENT AND BUDGET

PAYMENT BOND

Bond Number: _____

KNOW ALL PERSONS BY THESE PRESENTS, that we, _____, as principal (“**Principal**”), and _____, a _____ corporation, legally authorized to do business in the State of Delaware, as surety (“**Surety**”), are held and firmly bound unto the _____ (“**Owner**”) (*insert State agency name*), in the amount of _____ (\$_____), to be paid to **Owner**, for which payment well and truly to be made, we do bind ourselves, our and each and every of our heirs, executors, administrations, successors and assigns, jointly and severally, for and in the whole firmly by these presents.

Sealed with our seals and dated this _____ day of _____, 20__.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if **Principal**, who has been awarded by **Owner** that certain contract known as Contract No. #4-17-03 dated the _____ day of _____, 20__ (the “Contract”), which Contract is incorporated herein by reference, shall well and truly pay all and every person furnishing materials or performing labor or service in and about the performance of the work under the Contract, all and every sums of money due him, her, them or any of them, for all such materials, labor and service for which **Principal** is liable, shall make good and reimburse **Owner** sufficient funds to pay such costs in the completion of the Contract as **Owner** may sustain by reason of any failure or default on the part of **Principal**, and shall also indemnify and save harmless **Owner** from all costs, damages and expenses arising out of or by reason of the performance of the Contract and for as long as provided by the Contract; then this obligation shall be void, otherwise to be and remain in full force and effect.

Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of **Surety** and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition or change in or to the Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any work to be performed or any monies due or to become due thereunder; and **Surety** hereby waives notice of any and all such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to **Surety** as though done or omitted to be done by or in relation to **Principal**.

Surety hereby stipulates and agrees that no modifications, omission or additions in or to the terms of the Contract shall in any way whatsoever affect the obligation of **Surety** and its bond.

Any proceeding, legal or equitable, under this Bond may be brought in any court of competent jurisdiction in the State of Delaware. Notices to **Surety** or Contractor may be mailed or delivered to them at their respective addresses shown below.

IN WITNESS WHEREOF, **Principal** and **Surety** have hereunto set their hand and seals, and such of them as are corporations have caused their corporate seal to be hereto affixed and these presents to be signed by their duly authorized officers, the day and year first above written.

PRINCIPAL

Name: _____

Witness or Attest: Address: _____

Name:

(Corporate Seal)

By: _____ (SEAL)

Name:
Title:

SURETY

Name: _____

Witness or Attest: Address: _____

Name:

(Corporate Seal)

By: _____ (SEAL)

Name:
Title:

APPLICATION AND CERTIFICATE FOR PAYMENT

The Application and Certificate for Payment is as stated in the American Institute of Architects Document AIA G702 (1992 Edition) entitled Application and Certificate for Payment and is part of this project manual as if herein written in full.

Copies of the Document are available through the A/E.

A draft copy of this document is included herein as follows

NOT FOR CONSTRUCTION

Application and Certificate for Payment

TO OWNER: FROM CONTRACTOR:	PROJECT: VIA ARCHITECT:	APPLICATION NO: PERIOD TO: CONTRACTOR: CONTRACT DATE: PROJECT NOS: / /	Distribution to: OWNER: <input type="checkbox"/> ARCHITECT: <input type="checkbox"/> CONTRACTOR: <input type="checkbox"/> FIELD: <input type="checkbox"/> OTHER: <input type="checkbox"/>
---	--	---	---

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM	\$ _____
2. Net change by Change Orders	\$ _____
3. CONTRACT SUM TO DATE (Line 1 ± 2)	\$ _____
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)	\$ _____
5. RETAINAGE:	
a. _____ % of Completed Work (Column D + E on G703)	\$ _____
b. _____ % of Stored Material (Column F on G703)	\$ _____
Total Retainage (Lines 5a + 5b or Total in Column I of G703)	\$ _____
6. TOTAL EARNED LESS RETAINAGE	\$ _____
(Line 4 Less Line 5 Total)	
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT	\$ _____
(Line 6 from prior Certificate)	
8. CURRENT PAYMENT DUE	\$ _____
9. BALANCE TO FINISH, INCLUDING RETAINAGE	\$ _____
(Line 3 less Line 6)	

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ _____	\$ _____
Total approved this Month	\$ _____	\$ _____
TOTALS	\$ _____	\$ _____
NET CHANGES by Change Order	\$ _____	

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:
 By: _____ Date: _____
 State of: _____
 County of: _____
 Subscribed and sworn to before
 me this _____ day of _____
 Notary Public:
 My Commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:
 By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract


AIA[®] Document G703[™] – 1992
Continuation Sheet

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.
 In tabulations below, amounts are stated to the nearest dollar.
 Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO.:
 APPLICATION DATE:
 PERIOD TO:
 ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)		H BALANCE TO FINISH (C - G)	I RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD		% (G ÷ C)			
GRAND TOTAL		\$	\$	\$	\$	\$		\$	\$

NOT FOR CONSTRUCTION



AIA[®]

Document G701[™] – 2001

Change Order

PROJECT <i>(Name and address):</i>	CHANGE ORDER NUMBER:	OWNER: <input type="checkbox"/>
	DATE:	ARCHITECT: <input type="checkbox"/>
TO CONTRACTOR <i>(Name and address):</i>	ARCHITECT'S PROJECT NUMBER:	CONTRACTOR: <input type="checkbox"/>
	CONTRACT DATE:	FIELD: <input type="checkbox"/>
	CONTRACT FOR:	OTHER: <input type="checkbox"/>

THE CONTRACT IS CHANGED AS FOLLOWS:

(Include, where applicable, any undisputed amount attributable to previously executed Construction Change Directives)

The original Contract Sum was	\$	_____	0.00
The net change by previously authorized Change Orders	\$	_____	0.00
The Contract Sum prior to this Change Order was	\$	_____	0.00
The Contract Sum will be _____ by this Change Order in the amount of _____	\$	_____	0.00
The new Contract Sum including this Change Order will be _____	\$	_____	0.00
The Contract Time will be _____ by (_____) days.			
The date of Substantial Completion as of the date of this Change Order therefore is _____			

NOTE: This Change Order does not include changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

_____ ARCHITECT <i>(Firm name)</i>	_____ CONTRACTOR <i>(Firm name)</i>	_____ OWNER <i>(Firm name)</i>
_____ ADDRESS	_____ ADDRESS	_____ ADDRESS
_____ BY <i>(Signature)</i>	_____ BY <i>(Signature)</i>	_____ BY <i>(Signature)</i>
_____ <i>(Typed name)</i>	_____ <i>(Typed name)</i>	_____ <i>(Typed name)</i>
_____ DATE	_____ DATE	_____ DATE



AIA® Document G704™ – 2000

Certificate of Substantial Completion

PROJECT:
(Name and address):

PROJECT NUMBER: /
CONTRACT FOR:
CONTRACT DATE:

OWNER:
ARCHITECT:
CONTRACTOR:
FIELD:
OTHER:

TO OWNER:
(Name and address):

TO CONTRACTOR:
(Name and address):

PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

Warranty

Date of Commencement

ARCHITECT

BY

DATE OF ISSUANCE

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

Cost estimate of Work that is incomplete or defective: \$

The Contractor will complete or correct the work on the list of items attached hereto within () days from the above date of Substantial Completion.

CONTRACTOR

BY

DATE

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at (time) on (date).

OWNER

BY

DATE

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:

(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)



AIA[®] Document G706[™] – 1994

Contractor's Affidavit of Payment of Debts and Claims

PROJECT: <i>(Name and address)</i>	ARCHITECT'S PROJECT NUMBER:	OWNER: <input type="checkbox"/>
		ARCHITECT: <input type="checkbox"/>
TO OWNER: <i>(Name and address)</i>	CONTRACT FOR:	CONTRACTOR: <input type="checkbox"/>
	CONTRACT DATED:	SURETY: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

STATE OF:
COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

- Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose
Indicate Attachment Yes No

CONTRACTOR: *(Name and address)*

The following supporting documents should be attached hereto if required by the Owner:

- Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
- Separate Release or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
- Contractor's Affidavit of Release of Liens (AIA Document G706A).

BY: _____
(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:



AIA[®] Document G706A[™] – 1994

Contractor's Affidavit of Release of Liens

PROJECT: <i>(Name and address)</i>	ARCHITECT'S PROJECT NUMBER:	OWNER: <input type="checkbox"/>
TO OWNER: <i>(Name and address)</i>	CONTRACT FOR:	ARCHITECT: <input type="checkbox"/>
	CONTRACT DATED:	CONTRACTOR: <input type="checkbox"/>
		SURETY: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

STATE OF:
COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO: CONTRACTOR: *(Name and address)*

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

BY:

(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:
My Commission Expires:



AIA[®] Document G707[™] – 1994

Consent Of Surety to Final Payment

PROJECT: <i>(Name and address)</i>	ARCHITECT'S PROJECT NUMBER:	OWNER: <input type="checkbox"/>
	CONTRACT FOR:	ARCHITECT: <input type="checkbox"/>
TO OWNER: <i>(Name and address)</i>	CONTRACT DATED:	CONTRACTOR: <input type="checkbox"/>
		SURETY: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the
 Surety of any of its obligations to
(Insert name and address of Owner)

, CONTRACTOR,

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
 (Seal):

(Printed name and title)



AIA[®] Document G710[™] – 1992

Architect's Supplemental Instructions

PROJECT (Name and address):

ARCHITECT'S SUPPLEMENTAL
INSTRUCTION NO:

OWNER:

ARCHITECT:

OWNER (Name and address):

DATE OF ISSUANCE:

CONSULTANT:

CONTRACTOR:

FROM ARCHITECT (Name and
address):

CONTRACT FOR:

FIELD:

CONTRACT DATE:

OTHER:

TO CONTRACTOR (Name and
address):

ARCHITECT'S PROJECT NUMBER:

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgment that there will be no change in the Contract Sum or Contract Time.

DESCRIPTION:

ATTACHMENTS:

(Here insert listing of documents that support description.)

ISSUED BY THE ARCHITECT:

(Signature)

(Printed name and title)



AIA[®] Document G714[™] – 2007

Construction Change Directive

PROJECT: <i>(Name and address)</i>	DIRECTIVE NUMBER:	OWNER: <input type="checkbox"/>
	DATE:	ARCHITECT: <input type="checkbox"/>
	CONTRACT FOR:	CONSULTANT: <input type="checkbox"/>
TO CONTRACTOR: <i>(Name and address)</i>	CONTRACT DATED:	CONTRACTOR: <input type="checkbox"/>
	ARCHITECT'S PROJECT NUMBER:	FIELD: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

You are hereby directed to make the following change(s) in this Contract:
(Describe briefly any proposed changes or list any attached information in the alternative)

PROPOSED ADJUSTMENTS

- The proposed basis of adjustment to the Contract Sum or Guaranteed Maximum Price is:
 - Lump Sum of \$
 - Unit Price of \$ per
 - As provided in Section 7.3.3 of AIA Document A201-2007
 - As follows:

- The Contract Time is proposed to . The proposed adjustment, if any, is .

When signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above.

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

_____ ARCHITECT <i>(Firm name)</i>	_____ OWNER <i>(Firm name)</i>	_____ CONTRACTOR <i>(Firm name)</i>
_____ ADDRESS	_____ ADDRESS	_____ ADDRESS
_____ BY <i>(Signature)</i>	_____ BY <i>(Signature)</i>	_____ BY <i>(Signature)</i>
_____ <i>(Typed name)</i>	_____ <i>(Typed name)</i>	_____ <i>(Typed name)</i>
_____ DATE	_____ DATE	_____ DATE



AIA® Document G715™ – 1991

Supplemental Attachment for ACORD Certificate of Insurance 25-S

(This document replaces AIA Document G705, Certificate of Insurance.)

PROJECT (Name and address): _____

INSURED _____

A. General Liability

- | | Yes | No | N/A |
|--|--------------------------|-------------------------------------|--------------------------|
| 1. Does the General Aggregate apply to this Project only? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Does this policy include coverage for: | | | |
| a. Premises - Operations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Explosion, Collapse and Underground Hazards? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Personal Injury Coverage? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Products Coverage? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Completed Operations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Contractual Coverage for the Insured's obligations in A201? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. If coverage is written on a claims-made basis, what is the: | | | |
| a. Retroactive Date? | | | |
| b. Extended Reporting Date? | | | |

B. Worker's Compensation

- | | | | |
|---|--------------------------|--------------------------|--------------------------|
| 1. If the Insured is exempt from Worker's Compensation statutes, does the Insured carry the equivalent Voluntary Compensation coverage? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|

C. Final Payment Information

- | | | | |
|---|--------------------------|--------------------------|--------------------------|
| 1. Is this certificate being furnished in connection with the Contractor's request for final payment in accordance with the requirements of Sections 9.10.2 and 11.1.3 of AIA Document A201, General Conditions of the Contract for Construction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. If so, and if the policy period extends beyond termination of the Contract for Construction, is Completed Operations coverage for this Project continued for the balance of the policy period? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

D. Termination Provisions

- | | | | |
|--|--------------------------|--------------------------|--------------------------|
| 1. Has each policy shown on the certificate and this Supplement been endorsed to provide the holder with 30 days notice of cancellation and/or expiration? List below any policies which do not contain this notice. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|

E. Other Provisions

Authorized Representative

Date of Issue

STATE OF DELAWARE

DIVISION OF FACILITIES MANAGEMENT

GENERAL CONDITIONS

TO THE

CONTRACT

The General Conditions of this Contract are as stated in the American Institute of Architects Document AIA A201 (2007 Edition) entitled General Conditions of the Contract for Construction and is part of this project manual as if herein written in full.

NOT FOR CONSTRUCTION



AIA[®] Document A201[™] – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

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

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

Init.

INDEX

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

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

§ 1.1.2 THE CONTRACT

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

§ 1.1.3 THE WORK

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

§ 1.1.4 THE PROJECT

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

§ 1.1.5 THE DRAWINGS

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

§ 1.1.6 THE SPECIFICATIONS

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

§ 1.1.7 INSTRUMENTS OF SERVICE

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

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

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

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

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

§ 1.3 CAPITALIZATION

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

§ 1.4 INTERPRETATION

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

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

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

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

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

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

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

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

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

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

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

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.1.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

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

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

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

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

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

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

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

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

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

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

§ 3.4 LABOR AND MATERIALS

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

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

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

§ 3.5 WARRANTY

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

§ 3.6 TAXES

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

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

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

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

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

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

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

§ 3.8 ALLOWANCES

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

§ 3.9 SUPERINTENDENT

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

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

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

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

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

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

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

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

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

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

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

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and

completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

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

§ 3.14 CUTTING AND PATCHING

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

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

§ 3.15 CLEANING UP

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

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

§ 3.16 ACCESS TO WORK

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

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

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

§ 3.18 INDEMNIFICATION

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

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

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

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

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

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

§ 4.2 ADMINISTRATION OF THE CONTRACT

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

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

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

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

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

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

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

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

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

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

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

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

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

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

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

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

§ 5.3 SUBCONTRACTUAL RELATIONS

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

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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

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

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the

Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

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

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

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

§ 6.2 MUTUAL RESPONSIBILITY

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

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

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

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

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

§ 6.3 OWNER'S RIGHT TO CLEAN UP

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

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

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

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

§ 7.2 CHANGE ORDERS

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

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

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

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

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

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

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

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

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

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount

for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

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

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

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

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

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

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

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

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

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

§ 8.2 PROGRESS AND COMPLETION

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

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

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

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

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

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

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

§ 9.2 SCHEDULE OF VALUES

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

§ 9.3 APPLICATIONS FOR PAYMENT

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

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

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

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

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

encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

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

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

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

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

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

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

§ 9.6 PROGRESS PAYMENTS

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

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

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

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

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

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

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

§ 9.7 FAILURE OF PAYMENT

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

§ 9.8 SUBSTANTIAL COMPLETION

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

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

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

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

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

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

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

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

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

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

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

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

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

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

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

§ 10.2 SAFETY OF PERSONS AND PROPERTY

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

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

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

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

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

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

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

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

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

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

§ 10.3 HAZARDOUS MATERIALS

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

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

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

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

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

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

§ 10.4 EMERGENCIES

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, blowdown, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment

property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made, and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

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

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

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

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

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

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

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

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

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

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

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

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

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

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

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

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by

such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

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

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

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

§ 13.6 INTEREST

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

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

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

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

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

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

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

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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

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

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

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

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

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

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

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

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

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

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

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

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

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

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

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

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

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

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

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

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

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

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

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

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

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

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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

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

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

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

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

§ 15.4 ARBITRATION

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

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

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

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

§ 15.4.4 CONSOLIDATION OR JOINDER

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

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

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

SECTION 01 73 14 - SUPPLEMENTARY GENERAL CONDITIONS A201-1997

The following supplements modify the "General Conditions of the Contract for Construction," AIA Document A201-1997. Where a portion of the General Conditions is modified or deleted by the Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

TABLE OF ARTICLES

1. GENERAL PROVISIONS
2. OWNER
3. CONTRACTOR
4. ADMINISTRATION OF THE CONTRACT
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6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
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13. MISCELLANEOUS PROVISIONS
14. TERMINATION OR SUSPENSION OF THE CONTRACT

ARTICLE 1: GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

Delete the last sentence in its entirety and replace with the following:

“The Contract Documents also include Advertisement for Bid, Instructions to Bidders, sample forms, the Bid Form, the Contractor’s completed Bid and the Award Letter.”

Add the following Paragraph:

1.1.2 In the event of conflict or discrepancies among the Contract Documents, the Documents prepared by the State of Delaware, Division of Facilities Management shall take precedence over all other documents.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following Paragraphs:

1.2.4 In the case of an inconsistency between the Drawings and the Specifications, or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect’s interpretation.

1.2.5 The word “PROVIDE” as used in the Contract Documents shall mean “FURNISH AND INSTALL” and shall include, without limitation, all labor, materials, equipment, transportation, services and other items required to complete the Work.

1.2.6 The word “PRODUCT” as used in the Contract Documents means all materials, systems and equipment.

1.6 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

Delete Paragraph 1.6.1 in its entirety and replace with the following:

“All pre-design studies, drawings, specifications and other documents, including those in electronic form, prepared by the Architect under this Agreement are, and shall remain, the property of the Owner whether the Project for which they are made is executed or not. Such documents may be used by the Owner to construct one or more like Projects without the approval of, or additional compensation to, the Architect. The Contractor, Subcontractors, Sub-subcontractors and Material or Equipment Suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect’s consultants appropriate to and for use in the execution of their Work under the Contract Documents. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or Material and Equipment Supplier on

other Projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and Architect's consultants.

The Architect shall not be liable for injury or damage resulting from the re-use of drawings and specifications if the Architect is not involved in the re-use Project. Prior to re-use of construction documents for a Project in which the Architect is not also involved, the Owner will remove from such documents all identification of the original Architect, including name, address and professional seal or stamp."

ARTICLE 2: OWNER

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

To Subparagraph 2.2.3 – Add the following sentence:

"The Contractor, at their expense shall bear the costs to accurately identify the location of all underground utilities in the area of their excavation and shall bear all cost for any repairs required, out of failure to accurately identify said utilities."

Delete Subparagraph 2.2.5 in its entirety and substitute the following:

2.2.1 The Contractor shall be furnished free of charge up to five (5) sets of the Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage and handling.

ARTICLE 3: CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Amend Paragraph 3.2.2 to state that any errors, inconsistencies or omissions discovered shall be reported to the Architect and Owner immediately.

Delete the third sentence in Paragraph 3.2.3.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

Add the following Paragraphs:

3.3.2.1 The Contractor shall immediately remove from the Work, whenever requested to do so by the Owner, any person who is considered by the Owner or Architect to be incompetent or disposed to be so disorderly, or who for any reason is not satisfactory to the Owner, and that person shall not again be employed on the Work without the consent of the Owner or the Architect.

3.3.4 The Contractor must provide suitable storage facilities at the Site for the proper protection and safe storage of their materials. Consult the Owner and the Architect before storing any materials.

- 3.3.5 When any room is used as a shop, storeroom, office, etc., by the Contractor or Subcontractor(s) during the construction of the Work, the Contractor making use of these areas will be held responsible for any repairs, patching or cleaning arising from such use.

3.4 LABOR AND MATERIALS

Add the Following Paragraphs:

- 3.4.4 Before starting the Work, each Contractor shall carefully examine all preparatory Work that has been executed to receive their Work. Check carefully, by whatever means are required, to insure that its Work and adjacent, related Work, will finish to proper contours, planes and levels. Promptly notify the General Contractor/Construction Manager of any defects or imperfections in preparatory Work which will in any way affect satisfactory completion of its Work. Absence of such notification will be construed as an acceptance of preparatory Work and later claims of defects will not be recognized.
- 3.4.5 Under no circumstances shall the Contractor's Work proceed prior to preparatory Work proceed prior to preparatory Work having been completely cured, dried and/or otherwise made satisfactory to receive this Work. Responsibility for timely installation of all materials rests solely with the Contractor responsible for that Work, who shall maintain coordination at all times.

3.5 WARRANTY

Add the following Paragraphs:

- 3.5.1 The Contractor will guarantee all materials and workmanship against original defects, except injury from proper and usual wear when used for the purpose intended, for one year after Acceptance by the Owner, and will maintain all items in perfect condition during the period of guarantee.
- 3.5.2 Defects appearing during the period of guarantee will be made good by the Contractor at his expense upon demand of the Owner, it being required that all work will be in perfect condition when the period of guarantee will have elapsed.
- 3.5.3 In addition to the General Guarantee there are other guarantees required for certain items for different periods of time than the one year as above, and are particularly so stated in that part of the specifications referring to same. The said guarantees will commence at the same time as the General Guarantee.
- 3.5.4 If the Contractor fails to remedy any failure, defect or damage within a reasonable time after receipt of notice, the Owner will have the right to replace, repair, or otherwise remedy the failure, defect or damage at the Contractor's expense.

3.5.5 All warranties shall commence at the date of substantial completion for the entire project, issuance of final certificate of occupancy, or upon substantial completion of that portion of the work, whichever occurs later.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

Add the following Paragraphs:

3.10.1 The Contractor shall own all entities (products, materials, equipment and systems) identified in the Project Manual (Specifications) and Drawings, regardless of whether said entities are only referenced in either the Project Manual or the drawings. Failure of the successful low bidder to identify all required quantities and locations of all project entities in the bidding period will not exempt the low bidder from the contractual responsibility for these items. In the event of a conflict between the Project Manual and the drawings, the Contractor shall own the more costly of the conflicting scenarios. The conflict, once identified and reported by the Contractor, will be resolved by the Architect.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following Paragraphs:

3.11.1 During the course of the Work, the Contractor shall maintain a record set of drawings on which the Contractor shall mark the actual physical location of all piping, valves, equipment, conduit, outlets, access panels, controls, actuators, including all appearances that will be concealed once construction is complete, etc., including all invert elevations.

3.11.2 At the completion of the project, the Contractor shall obtain a set of reproducible drawings from the Architect, and neatly transfer all information outlined in 3.11.1 to provide a complete record of the as-built conditions.

3.11.3 The Contractor shall provide two (2) prints of the as-built conditions, along with the reproducible drawings themselves, to the Owner and one (1) set to the Architect. In addition, attach one complete set to each of the Operating and Maintenance Instructions/Manuals.

ARTICLE 4 ADMINISTRATION OF THE CONTRACT

4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

Delete the first sentence of Paragraph 4.2.7 and replace with the following:

The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples for the purpose of checking for conformance with the Contract Documents.

Delete the second sentence of Paragraph 4.2.7 and replace with the following:

The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work in the activities of the Owner, Contractor or separate Contractors, while allowing sufficient time in the Owner's professional judgment to permit adequate review.

Add the following Paragraph:

4.2.10.1 There will be no full-time project representative provided by the Owner or Architect on this project.

4.3 CLAIMS AND DISPUTES

Delete Paragraph 4.3.10 in its entirety.

4.4 RESOLUTION OF CLAIMS AND DISPUTES

Delete Paragraph 4.4.5 in its entirety and replace with the following:

4.4.5 The Architect will approve or reject Claims by written decision, which shall state the reasons therefore and shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be subject to mediation and other remedies at law or in equity.

Delete Paragraph 4.4.6 in its entirety.

4.5 MEDIATION

4.5.2 At the end of the second sentence, delete "and with the American Arbitration Association."

4.6 ARBITRATION

Delete Paragraph 4.6 and its sub-sections in its entirety.

ARTICLE 5. SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

Delete Paragraph 5.2.3 in its entirety and replace with the following:

5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection, subject to the statutory requirements of 29 Delaware Code § 6962(d)(10)b.3, 4.

ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

Delete Paragraph 6.1.4 in its entirety.

ARTICLE 7: CHANGES IN THE WORK

(SEE ARTICLE 7: CHANGES IN WORK OF THE GENERAL REQUIREMENTS)

ARTICLE 8: TIME

8.2 PROGRESS AND COMPLETION

Add the following Paragraphs:

8.2.1.1 Refer to Specification Section SUMMARY OF WORK for Contract time requirements.

8.2.4 If the Work falls behind the Progress Schedule as submitted by the Contractor, the Contractor shall employ additional labor and/or equipment necessary to bring the Work into compliance with the Progress Schedule at no additional cost to the Owner.

8.3 DELAYS AND EXTENSION OF TIME

Add the following Paragraph:

8.3.2.1 The Contractor shall update the status of the suspension, delay, or interruption of the Work with each Application for Payment. (The Contractor shall report the termination of such cause immediately upon the termination thereof.) Failure to comply with this procedure shall constitute a waiver for any claim for adjustment of time or price based upon said cause.

Delete Paragraph 8.3.3 in its entirety and replace with the following:

8.3.3 Except in the case of a suspension of the Work directed by the Owner, an extension of time under the provisions of Paragraph 8.3.1., shall be the Contractor's sole remedy in the progress of the Work and there shall be no payment or compensation to the Contractor for any expense or damage resulting from the delay.

Add the following Paragraph:

8.3.4 By permitting the Contractor to work after the expired time for completion of the project, the Owner does not waive their rights under the Contract.

8.6 PROJECT LABOR/STAFFING:

- 8.6.1 The contractor shall provide one full-time laborer and equipment/materials per shift dedicated to maintaining a clean job site. The owner reserves the right to direct the superintendent as to the tasks of the full-time laborer. If a laborer is not provided or is not keeping the job site clean, the owner shall employ his own work forces and back-charge the contractor.
- 8.6.2 The General Contractor shall employ a competent full time general superintendent and necessary assistants who will be in attendance at the Project site throughout the performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The General Contractor may either directly employ or assign this responsibility to a selected subcontractor. The superintendent shall have a minimum of 7 years experience and shall be subject to Owner's approval.

ARTICLE 9: PAYMENTS AND COMPLETION

8.8 SCHEDULE OF VALUES

Add the following Paragraphs:

- 9.2.2 The Schedule of Values shall be submitted using AIA Document G702, Continuation Sheet to G703.
- 9.2.3 The Schedule of Values is to include a line item for Project Closeout Document Submittal. The value of this item is to be no less than 3 % of the initial contract amount.

9.3 APPLICATIONS FOR PAYMENT

Add the following Paragraph:

- 9.3.1.3 Application for Payment shall be submitted on AIA Document G702 "Application and Certificate for Payment", supported by AIA Document G703 "Continuation Sheet". Said Applications shall be fully executed and notarized.

Add the following Paragraphs:

Until Closeout Documents have been received and outstanding items completed the Owner will pay 95% (ninety-five percent) of the amount due the Contractor on account of progress payments.

- 9.3.5 The Contractor shall provide a current and updated Progress Schedule to the Architect with each Application for Payment. Failure to provide Schedule will be just cause for rejection of Application for Payment.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Add the following to 9.5.1:

- .8 failure to provide a current Progress Schedule;
- .9 a lien or attachment is filed;
- .10 failure to comply with mandatory requirements for maintaining Record Documents.

9.6 PROGRESS PAYMENTS

Delete Paragraph 9.6.1 in its entirety and replace with the following:

- 9.6.1 After the Architect has approved and issued a Certificate for Payment, payment shall be made by the Owner within 30 days after Owner's receipt of the Certificate for Payment.

- 9.7 ADD the following statement to section 9.4.1: "See section 01770 – Closeout Procedures. Upon receipt of all the closeout documents, the 3% closeout document retainage" will be released."

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

SAFETY PRECAUTIONS AND PROGRAMS

Add the following Paragraphs

Each Contractor shall develop a safety program in accordance with the Occupational Safety and Health Act of 1970. A copy of said plan shall be furnished to the Owner and Architect prior to the commencement of that Contractor's Work.

Each Contractor shall appoint a Safety Representative. Safety Representatives shall be someone who is on site on a full time basis. If deemed necessary by the Owner or Architect, Contractor Safety meetings will be scheduled. The attendance of all Safety Representatives will be required. Minutes will be recorded of said meetings by the Contractor and will be distributed to all parties as well as posted in all job offices/trailers etc.

Protection and Replacement of Roadways, Curbs, Etc.

Before starting any work, the Contractor shall file with the Architect, for approval, a list of all defective areas related to the existing site, including roadways, etc. At the close of the project, the Contractor shall repair any damaged areas to the satisfaction of the Owner and Architect.

Repair of Grounds

Toward the completion of the job, go over the grounds, fill any ruts and repair any damage caused by hauling, the storage of materials, and other

operations, and leave the whole property in as good condition as at the start of the work.

It shall be the General Contractor's and its subcontractors' responsibility to meet the necessary safety requirements, established by the Federal "Occupational Safety and Health Administration" (OSHA) required and applicable while performing work on this project.

10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Paragraph:

10.2.4.1 As required in the Hazardous Chemical Act of June 1984, all vendors supplying any material that may be defined as hazardous, must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a caution warning on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in foreseeable emergency situations. Material Safety Data Sheets shall be provided directly to the Owner, along with the shipping slips that include those products.

10.3 HAZARDOUS MATERIALS

Delete Paragraph 10.3.3 in its entirety.

Delete Paragraphs 10.5 in its entirety.

ARTICLE 11: INSURANCE AND BONDS

11.2 OWNER'S LIABILITY INSURANCE

Delete Paragraph 11.2 in its entirety.

11.3 PROJECT MANAGEMENT PROTECTIVE LIABILITY INSURANCE

Delete Paragraph 11.3 in its entirety.

11.4 PROPERTY INSURANCE

Delete Paragraph 11.4 in its entirety and replace with the following:

11.4 The State will not provide Builder's All Risk Insurance for the Project. The Contractor and all Subcontractors shall provide property coverage for their tools and equipment, as necessary. Any mandatory deductible required by the Contractor's Insurance shall be the responsibility of the Contractor.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.2.2 AFTER SUBSTANTIAL COMPLETION

Add the following Paragraph:

- 12.2.2.1.1 At any time during the progress of the Work, or in any case where the nature of the defects will be such that it is not expedient to have corrected, the Owner, at its option, will have the right to deduct such sum, or sums, of money from the amount of the Contract as it considers justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

ARTICLE 13: MISCELLANEOUS PROVISIONS

Add the following Paragraph:

CONFLICTS WITH FEDERAL STATUTES OR REGULATIONS

- 13.8.1 If any provision, specifications or requirement of the Contract Documents conflict or is inconsistent with any statute, law or regulation of the government of the United State of America, the Contractor shall notify the Architect and Owner immediately upon discovery.

ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete Paragraph 14.4.3 in its entirety and replace with the following:

- 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and cost incurred by reason of such termination along with reasonable overhead.

END OF SECTION

SECTION 00 73 14 – ADDITIONAL SUPPLEMENTARY CONDITIONS

1. Supplementary Conditions

In addition to requirements of AIA-A201, "General Conditions of the Contract for Construction – 2007," herein referred to as "General Conditions" these Supplementary Conditions shall apply to the contract as a whole, and to each and every subcontract, and to all persons supplying any materials or labor entering into this project directly or indirectly.

2. Basic Definitions (Addition to AIA A201 General Conditions - Article 1, Paragraph 1, Subparagraph 1.1.5 "The Drawings")

The drawings for the project referred to throughout these specifications are identified as Architect's Commission No. 200-16101-14001

For full list of drawings, see below:

CS Cover Sheet

ARCHITECTURAL

A-100 Floor Plan – Demolition and New Work
A-200 Rcps – Demolition and New Work + Furniture Plan
A-410 Interior Elevations
A-510 Casework Details
A-601 Partition Types, Door Schedule and Door Details

MECHANICAL

M-100 Floor Plans – Demolition and New Work
M-500 Schedules and Details

PLUMBING

P-100 Floor Plans – Demolition And New Work
P-101 Floor Plans – Below & Above Slab – New Work

ELECTRICAL

E-100 Floor Plans – Demolition and New Work
E-500 Schedules & Details

3. Basic Definitions (Alteration to AIA General Conditions - Article 1, Paragraph 1.1, Subparagraph 1.1.7)

1.1.7 Project Manual: The Project Manual is the volume which includes the Bidding Documents, such as the Project Forward, and the Bid Form; Contract Forms such as Contract Agreement between the Owner and General Contractor, Performance Bond and other AIA documents in support of the Contract; Conditions of the Contract which include the General Conditions of the contract and Supplementary Conditions; and the Technical Specifications.

Daily Construction Report

4. Execution, Correlation, Intent and Interpretations (Alteration to AIA A201 General Conditions - Article 1, Paragraph 1.2, Subparagraph 1.2.1)

The Owner-Contractor Agreement shall be signed by the Owner and Contractor respectively. Signature of both parties on the Owner-Contractor agreement represents signature of each and every Contract Document.

(also)

(Addition to AIA A201 General Conditions - Article 1, Paragraph 1.2, Subparagraph 1.2.1 and 1.2.3)

Should anything be omitted from the Drawings or Specifications which is necessary to a clear understanding of the work or should any error appear in the various instruments furnished or included in these specifications, it shall be the duty of the Contractor to notify the Architect and obtain the necessary information and see that the work is carried out in compliance therewith, and that any damage or defect in the work caused thereby is properly corrected.

The Contractor shall be responsible for all measurements; shall check all drawings; shall report any discrepancies to the Architect; and shall furnish correct dimensions to all trades. It shall also furnish all lines and dimensions required in the performance of the work. Scaled dimensions shall not be allowed. The Contractor must check all drawings and verify all coordination. All details shall work together, and details indicated at various scales shall require all components whether or not they are indicated at all different scales.

5. Labor and Materials (Addition to AIA A201 General Conditions - Article 3, Paragraph 3.4, Subparagraph 3.4.1)

The Contractor must provide suitable storage facilities at the site for the proper protection and safe storage of its materials.

All materials delivered to the premises which are to form a part of the work are to be considered the property of the Owner and must not be removed without the Owner's consent, but the Contractor shall remove all surplus materials upon completion of each phase of the work and as directed by the Owner.

When any room is used as a shop, storeroom, etc., by the Contractor during the construction of the building, the Contractor shall be held responsible for any repairs, patching, or cleaning arising from such use.

The Contractor shall not subcontract, sublet, sell, transfer, assign, purchase work or materials from an organization other than its own, or otherwise dispose of the contract or any portion thereof, or of its right, title or interest therein, without written permission from the Owner and or Architect.

Daily Construction Report:

The Contractor shall at the end of each working day, unless expressly excused from this requirement by the Owner, carefully prepare a Daily Construction Report that shall include the weather and temperature, a general description of the work accomplished and its location on the roof, the number of men and regular and overtime hours by craft, and any accidents or unusual occurrences, and shall submit such reports to the Owner on a weekly basis.

6. Fire Prevention

An adequate fire watch and adequate fire extinguishing equipment approved by the Consultant shall be used.

Welding, burning, and open flame work shall be permitted, but only subject to the following conditions:

- A. The methods shall be approved by the Owner and the Consultant.
- B. The Contractor shall inform the Owner of the exact time that welding or open flame work will be performed.
- C. The application of roofing materials by the use of butane or propane torches, either hand held or as a part of a wheeled device used for that purpose shall be permitted, but only subject to the following conditions:
 - 1) Thoroughly knowledgeable workmen shall be employed.
 - 2) An inspection of all torched areas shall be made at the end of the day's work to determine if there are any "hot spots" that might indicate the presence of a smoldering fire within or beneath the membrane.

7. Permits, Fees and Notices (Alterations to AIA A201 General Conditions - Article 3, Paragraph 3.7)

The Contractor shall be responsible for permits and governmental fees necessary for the proper execution and completion of the work, and the Contractor is required to have proper State and County licenses. The Contractor will secure and pay for all permits and fees, including, but not limited to, inspections, utility connections, etc.

8. Superintendent (Alteration to AIA A201 General Conditions - Article 3, Paragraph 3.9)

A qualified, full-time superintendent shall be provided, and shall be present onsite during all construction, and each shift of activities. The Owner reserves the right to review and approve or reject the Contractor's proposed superintendent at anytime during the duration of the project. At anytime during the project.

9. Shop Drawings, Product Data and Samples (Addition to AIA A201 General Conditions - Article 3, Paragraph 3.12, Subparagraph 3.12.3)

3.12.3

- .1 The Contractor shall furnish for the approval of the Architect, any samples required by the specifications or that may be requested by the Architect, of any and/or all materials or equipment it proposes to use and shall prepay all shipping charges on the samples. The intent is for the Contractor to furnish two samples of each item called for, unless otherwise determined before start of construction.
- .2 No samples are to be submitted with the bids.

- .3 No materials or equipment, of which samples are required, to be submitted for approval shall be used on the work until such approval has been given by the Architect, except at the Contractor's risk and expense.
- .4 Each sample shall have a label indicating the material represented, its place of origin and names of the producer, the contractor and the building or work for which the material is intended. Samples of finished materials shall be so marked as to indicate where the materials represented are required by the drawings or specifications.
- .5 A letter in duplicate submitting each shipment of samples shall be mailed under separate cover by the Contractor to the Architect and contain a list of the samples, the name of the building or work for which the materials are intended and the brands of the materials and names of the manufacturers.
- .6 The approval of any samples shall be only for the characteristics or for the uses named in such approval and no other. No approval of a sample shall be taken in itself to change or modify the contract requirement. When a material has been approved, no additional sample of that material will be considered and no change in brand or make will be permitted. Approved samples of hardware in good condition may be suitable marked for identification and used in the work.
- .7 Failure of any material to pass the specified tests will be sufficient cause of refusal to consider, under this contract, any further samples of the same brand or make of this material.
- .8 Test samples, as the Architect may deem necessary, will be procured from the various materials or equipment delivered by the Contractor for use in the work. If any of these test samples fail to meet the specification requirements, any previous approvals will be withdrawn and such materials or equipment shall be subject to removal and replacement by the Contractor, with materials or equipment meeting the specification requirements, or at the discretion of the Owner, the defective materials and equipment may be permitted to remain in place subject to a proper adjustment of the Contract Price. The costs of the tests will be borne by the Owner except where laboratory tests are hereinafter specified elsewhere in this specification.

(also)

(Addition to AIA A201 General Conditions - Article 3, Paragraph 3.12)

- 3.12.11 The Contractor shall submit all required shop drawings and samples in accordance with the approved construction progress schedule and with such promptness as to cause no delay in its own work or in that of any other contractor or subcontractor. No extensions of time will be granted to the Contractor for any delay caused by its failure to have shop drawings or samples submitted in ample time to allow for review and approval.
- 3.12.12 Each subcontractor shall submit all shop drawings manufacturer's data, and samples through the Contractor, to the Architect for approval. All shop drawings shall be thoroughly checked by the Contractor for completeness and for compliance with the contract documents before submitting them to the Architect and shall bear the Contractor's stamp of approval certifying that they have been checked.

Each sheet of shop drawings shall identify the project, Contractor, subcontractor and fabricator or manufacturer and the date of the drawings. All shop drawings shall be numbered in consecutive sequence and each sheet shall indicate the total number of sheets in the set.

The shop drawings shall indicate types, gauges, and finishes of all materials. Where a shop coat of paint is required, its brand name and manufacturer's identification number or type shall be indicated. Sufficient data in each set of shop drawings shall be included to permit a detailed study of the item submitted.

10. Cleaning Up (Addition to AIA A201 General Conditions - Article 3, Paragraph 3.15, Subparagraph 3.15.1)

The Contractor shall police and clean up on a continuing basis during its presence on the project, all areas in which it is performing work. No burning of any kind will be permitted.

11. Administration of the Contract (Addition to AIA A201 General Conditions - Article 4, Paragraph 4.2, Subparagraph 4.2.1)

In addition to the general supervision by the Architect, the Owner may at its option employ a Project Manager who will at times represent it and the Architect. All matters involving the interpretation of the drawings and specifications shall be brought to the attention of this Project Manager, who shall consult with the Architect and advise the Contractor of the decision made thereon. The Project Manager shall have power to reject any materials, form of workmanship or method, which is not in accordance with the drawings and specifications, subject to approval of the Architect.

(also)

(Alteration to AIA A201 General Conditions - Article 4, Paragraph 4.2, Subparagraph 4.2.2)

4.2.2 The Architect will make such periodic visits to the site as may be necessary to familiarize itself generally with the progress and quality of the work and to determine in general, if the work is proceeding in accordance with the Contract Documents and to carry out the obligations of the Architect under its Agreement with the Owner in accordance with acceptable professional standards. On the basis of its on-site observations as Architect, it will keep the Owner informed of the progress of the work and will endeavor to guard the Owner against defects and deficiencies in the work of the Contractor. The Architect will not be required to make exhaustive or continuous on-site inspections to check the quality of the work.

12. Payments and Completion (Addition to AIA A201 General Conditions - Article 9)

On the 20th of each month, the Contractor shall submit its application for progress payment to the Architect. Upon receipt of Contractor's itemized application for payment, such application will be audited, modified if found necessary, and certificate issued for the amount approved by the Architect. Statement shall be submitted in quintuplicate to the office of the Architect.

Payment applications must indicate clearly the proportion of completion of work for each Contract and subcontract. Payment applications shall, when so requested by Architect, be accompanied by bills showing the amounts of labor and material incorporated into the building during the previous month, which would also show that the amount of material delivered to the site were furnished for this particular contract. Bills shall be returned when payments are made.

This amount shall be payable upon the submission and acceptance of all final project closeout documents. Acceptance shall be determined solely by the Owner and Architect.

See Article 15 for additional requirements.

13. Liquidated Damages (Addition to AIA A201 General Conditions – Article 8)

The Contractor shall be liable for liquidated damages if Substantial Completion does not occur, as outlined in the Bid Form.

Substantial Complete Criteria: The Owner must have beneficial occupancy, including, but not limited to, “Certificate of Occupancy” from Regulatory Agency (ies).

14. Accident Prevention (Addition to AIA A201 General Conditions - Article 10)

Machinery and equipment shall be guarded, and all hazards shall be guarded against or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America to the extent that such provisions are not in contravention of applicable laws.

This Project, its Prime Contractor and his Subcontractors shall, at all times, be governed by Chapter XIII of Title 29, Code of Federal Regulations, Part 1518 - Safety and Health Regulations for Construction (36 FR 75), as amended to date.

The Prime Contractor and all Subcontractors shall immediately report all accidents, injuries, or health hazards the Owner, or his designated representative, in writing. This shall not obviate any mandatory reporting under the provisions of the Occupational Safety and Health Administration Act of 1970 as may be amended.

The inclusion of the OSHA Act of 1970, as amended to date, this specification in no way commits the Owner or his representative to guarantee compliance by the Contractor or Subcontractors. Compliance is the sole responsibility of the Contractor and Subcontractors.

The Contractor will also observe and comply with the Owner’s specific safety requirements for construction contracts, if any, as if written fully herein.

15. Alcoholic Beverages and Controlled Substances

Alcoholic beverages and controlled substances, and those people who are under their influence are hereby barred from the project site.

The Contractor shall be responsible to assure complete compliance with the requirements of this paragraph.

16. Smoking

There shall be no smoking in the staging areas where flammable solvents or adhesives are stored or in use, or at the direction of the Owner.

17. Insurance (Addition to AIA A201 General Conditions - Article 11)

11.6 Limits of Liability Insurance: The Contractor shall use the standard “ACORD” form titled “Certificate of Insurance” in submitting its liability insurance limits. The required limits to be inserted in the “ACORD” form, as are follows:

18. General Notes: Contractor shall have the following additional items added to its required “ACORD” form Certificate Insurance:

- .1 Name and Address of Insured (Contractor).
- .2 Description of Operations/Locations.
- .3 Name and Address of Certificate Holder:

Colonial School District
318 East Basin Road
New Castle, DE 19720

- .4 Name of Added Insured:

Colonial School District
Tetra Tech

NOTE: THOUGH NOT A PART OF AIA DOCUMENT A201, THESE ADDITIONAL ARTICLES APPLY AS NOTED TO THIS PROJECT.

19. ARTICLE 15

15.1 LAWS, RULES, AND REGULATIONS, AS CURRENTLY AMENDED.

15.1.1 The Contractor shall comply with all laws, rules, and regulations of the State of Delaware, the County and/or local authorities having jurisdiction as may be applicable, affecting work under this contract including, but not limited to Title 29 of the State of Delaware Code of Laws:

Title 29, Section 2502:	Contractor license requirement; fees on gross receipts paid; statements required.
Title 29, Section 2503:	Architect, professional engineer duties as to nonresident contractor licenses.
Title 29, Section 2704:	Exculpatory clauses in certain contracts void.
Title 29, Section 2705:	Duty of contractor to list subcontractors, suppliers.
Title 29, Section 805/3503/4/5:	Penalties for contractor’s nonpayment of subcontractors and suppliers; use of money paid to contractor.
Title 29, Section 3506:	Contractor’s interest payment on late payments to subcontractors and suppliers.
Title 29, Section 6905/6928:	Failure to comply with contract; new award; supervision.
Title 29, Section 6927:	Bids and contract security.
Title 29, Section 6929:	Contract insurance and contract liability/
Title 29, Section 6930:	Owner’s right to audit contractor’s project-related records.
Title 29, Section 6960:	Prevailing wage rate requirements.
Title 29, Section 6961:	Small public works procedures.
Title 29, Section 6962:	Large public works procedures.
Title 29, Section 6964:	Contractor performance.

Title 29, Section 6987: Administrative provisions.

- 15.1.2 It is the explicit responsibility of each contractor to conform with all applicable State and Federal rules and regulations pertaining to safety, including but not limited to OSHA requirements.
- 15.6 Subcontractor Approval: The Owner reserves the right to reject any subcontractor, at the Bid Submission period, or at any other time during the Construction process.
- 15.6 The Contractor shall receive multiple purchase orders for the work required by this contract that will correspond to the State of Delaware's fiscal year (July 1 through June 30). The Contractor and the Owner shall mutually agree to the purchase order amounts that correspond to the work scheduled during that funding period, so as to not affect the completion date of the project. General Details

END OF SECTION

NOT FOR CONSTRUCTION

STATE OF DELAWARE
DEPARTMENT OF LABOR
DIVISION OF INDUSTRIAL AFFAIRS
OFFICE OF LABOR LAW ENFORCEMENT
PHONE: (302) 451-3423

Mailing Address:
225 CORPORATE BOULEVARD
SUITE 104
NEWARK, DE 19702

Located at:
225 CORPORATE BOULEVARD
SUITE 104
NEWARK, DE 19702

PREVAILING WAGES FOR BUILDING CONSTRUCTION EFFECTIVE MARCH 15, 2016

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
ASBESTOS WORKERS	22.58	27.81	40.47
BOILERMAKERS	67.59	34.29	50.41
BRICKLAYERS	50.49	50.49	50.49
CARPENTERS	52.81	52.81	41.97
CEMENT FINISHERS	70.82	30.05	21.89
ELECTRICAL LINE WORKERS	44.90	38.50	29.36
ELECTRICIANS	65.10	65.10	65.10
ELEVATOR CONSTRUCTORS	83.06	33.69	31.54
GLAZIERS	69.30	69.30	55.95
INSULATORS	54.38	54.38	54.38
IRON WORKERS	61.20	61.20	61.20
LABORERS	43.60	43.60	43.60
MILLWRIGHTS	66.83	66.83	53.40
PAINTERS	46.72	46.72	46.72
PILEDRIVERS	38.97	38.86	31.43
PLASTERERS	29.47	29.47	21.84
PLUMBERS/PIPEFITTERS/STEAMFITTERS	65.95	50.85	55.34
POWER EQUIPMENT OPERATORS	61.36	61.36	43.28
ROOFERS-COMPOSITION	23.49	23.40	20.87
ROOFERS-SHINGLE/SLATE/TILE	18.16	18.07	16.98
SHEET METAL WORKERS	65.14	65.14	65.14
SOFT FLOOR LAYERS	49.77	49.77	49.77
SPRINKLER FITTERS	54.57	54.57	54.57
TERRAZZO/MARBLE/TILE FLS	55.72	55.72	46.92
TERRAZZO/MARBLE/TILE STRS	63.98	63.98	54.33
TRUCK DRIVERS	28.39	27.10	20.68

CERTIFIED: 3-15-16

BY: *Robert H. [Signature]*
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

NOTE: THESE RATES ARE PROMULGATED AND ENFORCED PURSUANT TO THE PREVAILING WAGE REGULATIONS ADOPTED BY THE DEPARTMENT OF LABOR ON APRIL 3, 1992.

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE (302) 451-3423.

NON-REGISTERED APPRENTICES MUST BE PAID THE MECHANIC'S RATE.

THESE RATES ARE BEING PROVIDED IN ACCORDANCE WITH DELAWARE'S FREEDOM OF INFORMATION ACT.

THEY ARE NOT INTENDED TO APPLY TO ANY SPECIFIC PROJECT.

SECTION 00 81 13 - GENERAL REQUIREMENTS

TABLE OF ARTICLES

1. GENERAL PROVISIONS
2. OWNER
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6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7. CHANGES IN THE WORK
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11. INSURANCE AND BONDS
12. UNCOVERING AND CORRECTION OF WORK
13. MISCELLANEOUS PROVISIONS
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ARTICLE 1: GENERAL

1.1 CONTRACT DOCUMENTS

1.1.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required to an extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

1.1.2 Work including material purchases shall not begin until the Contractor is in receipt of a bonafide State of Delaware Purchase Order. Any work performed or material purchases prior to the issuance of the Purchase Order is done at the Contractor's own risk and cost.

1.2 EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

1.2.1 For Public Works Projects financed in whole or in part by state appropriation the Contractor agrees that during the performance of this contract:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, sexual orientation, gender identity or national origin. The Contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.

2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex or national origin.”

ARTICLE 2: OWNER

(NO ADDITIONAL GENERAL REQUIREMENTS – SEE SUPPLEMENTARY GENERAL CONDITIONS)

ARTICLE 3: CONTRACTOR

3.1 Schedule of Values: The successful Bidder shall within twenty (20) days after receiving notice to proceed with the work, furnish to the Owner a complete schedule of values on the various items comprising the work.

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- 3.2 Subcontracts: Upon approval of Subcontractors, the Contractor shall award their Subcontracts as soon as possible after the signing of their own contract and see that all material, their own and those of their Subcontractors, are promptly ordered so that the work will not be delayed by failure of materials to arrive on time.
- 3.3 Before commencing any work or construction, the General Contractor is to consult with the Owner as to matters in connection with access to the site and the allocation of Ground Areas for the various features of hauling, storage, etc.
- 3.4 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions.
- 3.5 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.
- 3.6 The Contractor warrants to the Owner that materials and equipment furnished will be new and of good quality, unless otherwise permitted, and that the work will be free from defects and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved, may be considered defective. If required by the Owner, the Contractor shall furnish evidence as to the kind and quality of materials and equipment provided.
- 3.7 Unless otherwise provided, the Contractor shall pay all sales, consumer, use and other similar taxes, and shall secure and pay for required permits, fees, licenses, and inspections necessary for proper execution of the Work.
- 3.8 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work. The Contractor shall promptly notify the Owner if the Drawings and Specifications are observed to be at variance therewith.
- 3.9 The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under contract with the Contractor.
- 3.10 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove from and about the Project all waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. The Contractor shall be responsible for returning all damaged areas to their original conditions.
- 3.11 STATE LICENSE AND TAX REQUIREMENTS

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- 3.11.1 Each Contractor and Subcontractor shall be licensed to do business in the State of Delaware and shall pay all fees and taxes due under State laws. In conformance with Section 2503, Chapter 25, Title 30, Delaware Code, "the Contractor shall furnish the Delaware Department of Finance within ten (10) days after entering into any contract with a contractor or subcontractor not a resident of this State, a statement of total value of such contract or contracts together with the names and addresses of the contracting parties."
- 3.12. The Contractor shall comply with all requirements set forth in Section 6902, Chapter 69, Title 29 of the Delaware Code.
- 3.13 During the contract Work, the Contractor and each listed Subcontractor, shall implement an Employee Drug Testing Program in accordance with OMB Regulation 4104- "Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on "Large Public Works Projects". "Large Public Work" is based upon the current threshold required for bidding Public Works as set by the Purchasing and Contracting Advisory Council.

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.1 CONTRACT SURETY

4.1.1 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

4.1.2 All bonds will be required as follows unless specifically waived elsewhere in the Bidding Documents.

4.1.3 Contents of Performance Bonds – The bond shall be in the form approved by the Office of Management and Budget. The bond shall be conditioned upon the faithful compliance and performance by the successful bidder of each and every term and condition of the contract and the proposal, plans, specifications, and bid documents thereof. Each term and condition shall be met at the time and in the manner prescribed by the Contract, Bid documents and the specifications, including the payment in full to every person furnishing material or performing labor in the performance of the Contract, of all sums of money due the person for such labor and material. (The bond shall also contain the successful bidder's guarantee to indemnify and save harmless the State and the agency from all costs, damages and expenses growing out of or by reason of the Contract in accordance with the Contract.)

4.1.4 Invoking a Performance Bond – The agency may, when it considers that the interest of the State so require, cause judgement to be confessed upon the bond.

4.1.5 Within twenty (20) days after the date of notice of award of contract, the Bidder to whom the award is made shall furnish a Performance Bond and Labor and Material Payment Bond, each equal to the full amount of the Contract price to guarantee the faithful performance of all terms, covenants and conditions of the same. The bonds are to be issued by an acceptable Bonding Company licensed to do business in the State of Delaware and shall be issued in duplicate.

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4.1.6 Performance and Payment Bonds shall be maintained in full force (warranty bond) for a period of two (2) years after the date of the Certificate for Final Payment. The Performance Bond shall guarantee the satisfactory completion of the Project and that the Contractor will make good any faults or defects in his work which may develop during the period of said guarantees as a result of improper or defective workmanship, material or apparatus, whether furnished by themselves or their Sub-Contractors. The Payment Bond shall guarantee that the Contractor shall pay in full all persons, firms or corporations who furnish labor or material or both labor and material for, or on account of, the work included herein. The bonds shall be paid for by this Contractor. The Owner shall have the right to demand that the proof parties signing the bonds are duly authorized to do so.

4.2 FAILURE TO COMPLY WITH CONTRACT

4.2.1 If any firm entering into a contract with the State, or Agency that neglects or refuses to perform or fails to comply with the terms thereof, the Agency which signed the Contract may terminate the Contract and proceed to award a new contract in accordance with this Chapter 69, Title 29 of the Delaware Code or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond. Nothing herein shall preclude the Agency from pursuing additional remedies as otherwise provided by law.

4.3 CONTRACT INSURANCE AND CONTRACT LIABILITY

4.3.1 In addition to the bond requirements stated in the Bid Documents, each successful Bidder shall purchase adequate insurance for the performance of the Contract and, by submission of a Bid, agrees to indemnify and save harmless and to defend all legal or equitable actions brought against the State, any Agency, officer and/or employee of the State, for and from all claims of liability which is or may be the result of the successful Bidder's actions during the performance of the Contract.

4.3.2 The purchase or nonpurchase of such insurance or the involvement of the successful Bidder in any legal or equitable defense of any action brought against the successful Bidder based upon work performed pursuant to the Contract will not waive any defense which the State, its agencies and their respective officers, employees and agents might otherwise have against such claims, specifically including the defense of sovereign immunity, where applicable, and by the terms of this section, the State and all agencies, officers and employees thereof shall not be financially responsible for the consequences of work performed, pursuant to said contract.

4.4 RIGHT TO AUDIT RECORDS

4.4.1 The Owner shall have the right to audit the books and records of a Contractor or any Subcontractor under any Contract or Subcontract to the extent that the books and records relate to the performance of the Contract or Subcontract.

4.4.2 Said books and records shall be maintained by the Contractor for a period of seven (7) years from the date of final payment under the Prime Contract and by the Subcontractor for a period of seven (7) years from the date of final payment under the Subcontract.

ARTICLE 5: SUBCONTRACTORS

5.1 SUBCONTRACTING REQUIREMENTS

5.1.1 All contracts for the construction, reconstruction, alteration or repair of any public building (not a road, street or highway) shall be subject to the following provisions:

1. A contract shall be awarded only to a Bidder whose Bid is accompanied by a statement containing, for each Subcontractor category, the name and address (city or town and State only – street number and P.O. Box addresses not required) of the subcontractor whose services the Bidder intends to use in performing the Work and providing the material for such Subcontractor category.
2. A Bid will not be accepted nor will an award of any Contract be made to any Bidder which, as the Prime Contractor, has listed itself as the Subcontractor for any Subcontractor unless:
 - A. It has been established to the satisfaction of the awarding Agency that the Bidder has customarily performed the specialty work of such Subcontractor category by artisans regularly employed by the Bidder's firm;
 - B. That the Bidder is duly licensed by the State to engage in such specialty work, if the State requires licenses; and
 - C. That the Bidder is recognized in the industry as a bona fide Subcontractor or Contractor in such specialty work and Subcontractor category.

5.1.2 The decision of the awarding Agency as to whether a Bidder who list itself as the Subcontractor for a Subcontractor category shall be final and binding upon all Bidders, and no action of any nature shall lie against any awarding agency or its employees or officers because of its decision in this regard.

5.1.3 After such a Contract has been awarded, the successful Bidder shall not substitute another Subcontractor for any Subcontractor whose name was set forth in the statement which accompanied the Bid without the written consent of the awarding Agency.

5.1.4 No Agency shall consent to any substitution of Subcontractors unless the Agency is satisfied that the Subcontractor whose name is on the Bidders accompanying statement:

- A. Is unqualified to perform the work required;
- B. Has failed to execute a timely reasonable Subcontract;

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C. Has defaulted in the performance on the portion of the work covered by the Subcontract; or

D. Is no longer engaged in such business.

5.1.5 Should a Bidder be awarded a contract, such successful Bidder shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract copies of all Delaware Business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

5.2 PENALTY FOR SUBSTITUTION OF SUBCONTRACTORS

5.2.1 Should the Contractor fail to utilize any or all of the Subcontractors in the Contractor's Bid statement in the performance of the Work on the public bidding, the Contractor shall be penalized in the amount of (project specific amount*). The Agency may determine to deduct payments of the penalty from the Contractor or have the amount paid directly to the Agency. Any penalty amount assessed against the Contractor may be remitted or refunded, in whole or in part, by the Agency awarding the Contract, only if it is established to the satisfaction of the Agency that the Subcontractor in question has defaulted or is no longer engaged in such business. No claim for the remission or refund of any penalty shall be granted unless an application is filed within one year after the liability of the successful Bidder accrues. All penalty amounts assessed and not refunded or remitted to the contractor shall be reverted to the State.

*one (1) percent of contract amount not to exceed \$10,000

5.3 ASBESTOS ABATEMENT

5.3.1 The selection of any Contractor to perform asbestos abatement for State-funded projects shall be approved by the Office of Management and Budget, Division of Facilities Management pursuant to Chapter 78 of Title 16.

5.4 STANDARDS OF CONSTRUCTION FOR THE PROTECTION OF THE PHYSICALLY HANDICAPPED

5.4.1 All Contracts shall conform with the standard established by the Delaware Architectural Accessibility Board unless otherwise exempted by the Board.

5.5 CONTRACT PERFORMANCE

5.5.1 Any firm entering into a Public Works Contract that neglects or refuses to perform or fails to comply with its terms, the Agency may terminate the Contract and proceed to

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award a new Contract or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond.

ARTICLE 6: CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS

6.1 The Owner reserves the right to simultaneously perform other construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other Projects at the same site.

6.2 The Contractor shall afford the Owner and other Contractors reasonable opportunity for access and storage of materials and equipment, and for the performance of their activities, and shall connect and coordinate their activities with other forces as required by the Contract Documents.

ARTICLE 7: CHANGES IN THE WORK

7.1 The Owner, without invalidating the Contract, may order changes in the Work consisting of Additions, Deletions, Modifications or Substitutions, with the Contract Sum and Contract completion date being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Professional, as the duly authorized agent, the Contractor and the Owner.

7.2 The Contract Sum and Contract Completion Date shall be adjusted only by a fully executed Change Order.

7.3 The additional cost, or credit to the Owner resulting from a change in the Work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the 'DPE' wages required and the "invoice price" of the materials/equipment needed.

7.3.1 "DPE" shall be defined to mean "direct personnel expense". Direct payroll expense includes direct salary plus customary fringe benefits (prevailing wage rates) and documented statutory costs such as workman's compensation insurance, Social Security, Medicare, and unemployment insurance (a maximum multiplier of 1.35 times DPE).

7.3.2 "Invoice price" of materials/equipment shall be defined to mean the actual cost of materials and/or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the "Means Building Construction Cost Data" publication.

7.3.3 In addition to the above, the General Contractor is allowed a fifteen percent (15%) markup for overhead and profit for additional work performed by the General Contractor's own forces. For additional subcontractor work, the Subcontractor is allowed a fifteen (15) percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding seven and one half percent (7.5%) on the

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subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, supervision, etc. No markup is permitted on the work of the subcontractors subcontractor. No additional costs shall be allowed for changes related to the Contractor's onsite superintendent/staff, or project manager, unless a change in the work changes the project duration and is identified by the CPM schedule. There will be no other costs associated with the change order.

ARTICLE 8: TIME

8.1 Time limits, if any, are as stated in the Project Manual. By executing the Agreement, the Contractor confirms that the stipulated limits are reasonable, and that the Work will be completed within the anticipated time frame.

8.2 If progress of the Work is delayed at any time by changes ordered by the Owner, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be extended for such reasonable time as the Owner may determine.

8.3 Any extension of time beyond the date fixed for completion of the construction and acceptance of any part of the Work called for by the Contract, or the occupancy of the building by the Owner, in whole or in part previous to the completion shall not be deemed a waiver by the Owner of his right to annul or terminate the Contract for abandonment or delay in the matter provided for, nor relieve the Contractor of full responsibility.

8.4 **SUSPENSION AND DEBARMENT**

8.4.1 Per Section 6962(d)(14), Title 29, Delaware Code, "Any Contractor who fails to perform a public works contract or complete a public works project within the time schedule established by the Agency in the Invitation To Bid, may be subject to Suspension or Debarment for one or more of the following reasons: a) failure to supply the adequate labor supply ratio for the project; b) inadequate financial resources; or, c) poor performance on the Project."

8.4.2 "Upon such failure for any of the above stated reasons, the Agency that contracted for the public works project may petition the Director of the Office of Management and Budget for Suspension or Debarment of the Contractor. The Agency shall send a copy of the petition to the Contractor within three (3) working days of filing with the Director. If the Director concludes that the petition has merit, the Director shall schedule and hold a hearing to determine whether to suspend the Contractor, debar the Contractor or deny the petition. The Agency shall have the burden of proving, by a preponderance of the evidence, that the Contractor failed to perform or complete the public works project within the time schedule established by the Agency and failed to do so for one or more of the following reasons: a) failure to supply the adequate labor supply ratio for the project; b) inadequate financial resources; or, c) poor performance on the project. Upon a finding in favor of the Agency, the Director may suspend a Contractor from Bidding on any project funded, in whole or in part, with public funds for up to 1 year for a first offense, up to 3 years for a second offense and permanently debar the Contractor for a third offense. The Director shall issue a written decision and shall send a copy to the

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Contractor and the Agency. Such decision may be appealed to the Superior Court within thirty (30) days for a review on the record.”

8.5 RETAINAGE

8.5.1 Per Section 6962(d)(5) a.3, Title 29, Delaware Code: The Agency may at the beginning of each public works project establish a time schedule for the completion of the project. If the project is delayed beyond the completion date due to the Contractor's failure to meet their responsibilities, the Agency may forfeit, at its discretion, all or part of the Contractor's retainage.

8.5.2 This forfeiture of retainage also applies to the timely completion of the punchlist. A punchlist will only be prepared upon the mutual agreement of the Owner, Architect and Contractor. Once the punchlist is prepared, all three parties will by mutual agreement, establish a schedule for its completion. Should completion of the punchlist be delayed beyond the established date due to the Contractor's failure to meet their responsibilities, the Agency may hold permanently, at its discretion, all or part of the Contractor's retainage.

ARTICLE 9: PAYMENTS AND COMPLETION

9.1 APPLICATION FOR PAYMENT

9.1.1 Applications for payment shall be made upon AIA Document G702. There will be a five percent (5%) retainage on all Contractor's monthly invoices until completion of the project. This retainage may become payable upon receipt of all required closeout documentation, provided all other requirements of the Contract Documents have been met.

9.1.2 A date will be fixed for the taking of the monthly account of work done. Upon receipt of Contractor's itemized application for payment, such application will be audited, modified, if found necessary, and approved for the amount. Statement shall be submitted to the Owner.

9.1.3 Section 6516, Title 29 of the Delaware Code annualized interest is not to exceed 12% per annum beginning thirty (30) days after the “presentment” (as opposed to the date) of the invoice.

9.2 PARTIAL PAYMENTS

9.2.1 Any public works Contract executed by any Agency may provide for partial payments at the option of the Owner with respect to materials placed along or upon the sites or stored at secured locations, which are suitable for use in the performance of the contract.

9.2.2 When approved by the agency, partial payment may include the values of tested and acceptable materials of a nonperishable or noncontaminative nature which have been

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produced or furnished for incorporation as a permanent part of the work yet to be completed, provided acceptable provisions have been made for storage.

9.2.2.1 Any allowance made for materials on hand will not exceed the delivered cost of the materials as verified by invoices furnished by the Contractor, nor will it exceed the contract bid price for the material complete in place.

9.2.3 If requested by the Agency, receipted bills from all Contractors, Subcontractors, and material, men, etc., for the previous payment must accompany each application for payment. Following such a request, no payment will be made until these receipted bills have been received by the Owner.

9.3 SUBSTANTIAL COMPLETION

9.3.1 When the building has been made suitable for occupancy, but still requires small items of miscellaneous work, the Owner will determine the date when the project has been substantially completed.

9.3.2 If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and without terminating the Contract, the Owner may make payment of the balance due for the portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment that it shall not constitute a waiver of claims.

9.3.3 On projects where commissioning is included, the commissioning work as defined in the specifications must be complete prior to the issuance of substantial completion.

9.4 FINAL PAYMENT

9.4.1 Final payment, including the five percent (5%) retainage if determined appropriate, shall be made within thirty (30) days after the Work is fully completed and the Contract fully performed and provided that the Contractor has submitted the following closeout documentation (in addition to any other documentation required elsewhere in the Contract Documents):

9.4.1.1 Evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid,

9.4.1.2 An acceptable RELEASE OF LIENS,

9.4.1.3 Copies of all applicable warranties,

9.4.1.4 As-built drawings,

9.4.1.5 Operations and Maintenance Manuals,

9.4.1.6 Instruction Manuals,

9.4.1.7 Consent of Surety to final payment.

- 9.4.1.8 The Owner reserves the right to retain payments, or parts thereof, for its protection until the foregoing conditions have been complied with, defective work corrected and all unsatisfactory conditions remedied.

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

- 10.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take all reasonable precautions to prevent damage, injury or loss to: workers, persons nearby who may be affected, the Work, materials and equipment to be incorporated, and existing property at the site or adjacent thereto. The Contractor shall give notices and comply with applicable laws ordinances, rules regulation, and lawful orders of public authorities bearing on the safety of persons and property and their protection from injury, damage, or loss. The Contractor shall promptly remedy damage and loss to property at the site caused in whole or in part by the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.
- 10.2 The Contractor shall notify the Owner in the event any existing hazardous material such as lead, PCBs, asbestos, etc. is encountered on the project. The Owner will arrange with a qualified specialist for the identification, testing, removal, handling and protection against exposure or environmental pollution, to comply with applicable regulation laws and ordinances. The Contractor and Architect will not be required to participate in or to perform this operation. Upon completion of this work, the Owner will notify the Contractor and Architect in writing the area has been cleared and approved by the authorities in order for the work to proceed. The Contractor shall attach documentation from the authorities of said approval.
- 10.3 As required in the Hazardous Chemical Information Act of June 1984, all vendors supplying any materials that may be defined as hazardous, must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a warning caution on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in any foreseeable emergency situation. Material Safety Data Sheets must be provided directly to the Owner along with the shipping slips that include those products.
- 10.4 The Contractor shall certify to the Owner that materials incorporated into the Work are free of all asbestos. This certification may be in the form of Material Safety Data Sheet (MSDS) provided by the product manufacturer for the materials used in construction, as specified or as provided by the Contractor.

ARTICLE 11: INSURANCE AND BONDS

- 11.1 The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. The Contractor shall carry such insurance coverage as they desire on their own property such as a field office, storage sheds or other structures erected upon the project site that belong to them and for their own use. The Subcontractors involved with this

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project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.

11.2 Upon being awarded the Contract, the Contractor shall obtain a minimum of two (2) copies of all required insurance certificates called for herein, and submit one (1) copy of each certificate, to the Owner, within 20 days of contract award.

11.3 Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverages shall be filed with and approved by the Owner.

11.4 The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and control damaged in any way by the Contractor or their Subcontractors during the entire construction period on this project.

11.5 Builders Risk (including Standard Extended Coverage Insurance) on the existing building during the entire construction period, shall not be provided by the Contractor under this contract. The Owner shall insure the existing building and all of its contents and all this new alteration work under this contract during entire construction period for the full insurable value of the entire work at the site. Note, however, that the Contractor and their Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.

11.6 Certificates of the insurance company or companies stating the amount and type of coverage, term of policies, etc., shall be furnished to the Owner, within 20 days of contract award.

11.7 The Contractor shall, at their own expense, (in addition to the above) carry the following forms of insurance:

11.7.1 Contractor's Contractual Liability Insurance

Minimum coverage to be:

Bodily Injury	\$500,000	for each person
	\$1,000,000	for each occurrence
	\$1,000,000	aggregate
Property Damage	\$500,000	for each occurrence
	\$1,000,000	aggregate

11.7.2 Contractor's Protective Liability Insurance

Minimum coverage to be:

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Bodily Injury	\$500,000	for each person
	\$1,000,000	for each occurrence
	\$1,000,000	aggregate
Property Damage	\$500,000	for each occurrence
	\$500,000	aggregate

11.7.3 Automobile Liability Insurance

Minimum coverage to be:

Bodily Injury	\$1,000,000	for each person
	\$1,000,000	for each occurrence
Property Damage	\$500,000	per accident

11.7.4 Prime Contractor's and Subcontractors' policies shall include contingent and contractual liability coverage in the same minimum amounts as 11.7.1 above.

11.7.5 Workmen's Compensation (including Employer's Liability):

11.7.5.1 Minimum Limit on employer's liability to be as required by law.

11.7.5.2 Minimum Limit for all employees working at one site.

11.7.6 Certificates of Insurance must be filed with the Owner guaranteeing fifteen (15) days prior notice of cancellation, non-renewal, or any change in coverages and limits of liability shown as included on certificates.

11.7.7 Social Security Liability

11.7.7.1 With respect to all persons at any time employed by or on the payroll of the Contractor or performing any work for or on their behalf, or in connection with or arising out of the Contractor's business, the Contractor shall accept full and exclusive liability for the payment of any and all contributions or taxes or unemployment insurance, or old age retirement benefits, pensions or annuities now or hereafter imposed by the Government of the United States and the State or political subdivision thereof, whether the same be measured by wages, salaries or other remuneration paid to such persons or otherwise.

11.7.7.2 Upon request, the Contractor shall furnish Owner such information on payrolls or employment records as may be necessary to enable it to fully comply with the law imposing the aforesaid contributions or taxes.

11.7.7.3 If the Owner is required by law to and does pay any and/or all of the aforesaid contributions or taxes, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

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ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

- 12.1 The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed, and shall correct any Work found to be not in accordance with the requirements of the Contract Documents within a period of two years from the date of Substantial Completion, or by terms of an applicable special warranty required by the Contract Documents. The provisions of this Article apply to work done by Subcontractors as well as to Work done by direct employees of the Contractor.
- 12.2 At any time during the progress of the work, or in any case where the nature of the defects shall be such that it is not expedient to have them corrected, the Owner, at their option, shall have the right to deduct such sum, or sums, of money from the amount of the contract as they consider justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

ARTICLE 13: MISCELLANEOUS PROVISIONS

13.1 CUTTING AND PATCHING

- 13.1.1 The Contractor shall be responsible for all cutting and patching. The Contractor shall coordinate the work of the various trades involved.

13.2 DIMENSIONS

- 13.2.1 All dimensions shown shall be verified by the Contractor by actual measurements at the project site. Any discrepancies between the drawings and specifications and the existing conditions shall be referred to the Owner for adjustment before any work affected thereby has been performed.

13.3 LABORATORY TESTS

- 13.3.1 Any specified laboratory tests of material and finished articles to be incorporated in the work shall be made by bureaus, laboratories or agencies approved by the Owner and reports of such tests shall be submitted to the Owner. The cost of the testing shall be paid for by the Contractor.

- 13.3.2 The Contractor shall furnish all sample materials required for these tests and shall deliver same without charge to the testing laboratory or other designated agency when and where directed by the Owner.

13.4 ARCHAEOLOGICAL EVIDENCE

- 13.4.1 Whenever, in the course of construction, any archaeological evidence is encountered on the surface or below the surface of the ground, the Contractor shall notify the authorities of the Delaware Archaeological Board and suspend work in the immediate area for a reasonable time to permit those authorities, or persons designated by them, to examine the area and

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ensure the proper removal of the archaeological evidence for suitable preservation in the State Museum.

13.5 GLASS REPLACEMENT AND CLEANING

13.5.1 The General Contractor shall replace without expense to the Owner all glass broken during the construction of the project. If job conditions warrant, at completion of the job, the General Contractor shall have all glass cleaned and polished.

13.6 WARRANTY

13.6.1 For a period of two (2) years from the date of substantial completion, as evidenced by the date of final acceptance of the work, the contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect of equipment, material or workmanship performed by the contractor or any of his subcontractors or suppliers. However, manufacturer's warranties and guarantees, if for a period longer than two (2) years, shall take precedence over the above warranties. The contractor shall remedy, at his own expense, any such failure to conform or any such defect. The protection of this warranty shall be included in the Contractor's Performance Bond.

ARTICLE 14: TERMINATION OF CONTRACT

14.1 If the Contractor defaults or persistently fails or neglects to carry out the Work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor, may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the costs of finishing the Work exceed any unpaid compensation due the Contractor, the Contractor shall pay the difference to the Owner.

14.2 "If the continuation of this Agreement is contingent upon the appropriation of adequate state, or federal funds, this Agreement may be terminated on the date beginning on the first fiscal year for which funds are not appropriated or at the exhaustion of the appropriation. The Owner may terminate this Agreement by providing written notice to the parties of such non-appropriation. All payment obligations of the Owner will cease upon the date of termination. Notwithstanding the foregoing, the Owner agrees that it will use its best efforts to obtain approval of necessary funds to continue the Agreement by taking appropriate action to request adequate funds to continue the Agreement."

END OF SECTION

EMPLOYEE DRUG TESTING REPORT FORM

Period Ending: _____

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors who work on Large Public Works Contracts funded all or in part with public funds submit Testing Report Forms to the Owner no less than quarterly.

Project Number: _____ 200-16101-16003 _____

Project Name: _____ CSD- William Penn H.S.– Innovation Center _____

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Number of employees who worked on the jobsite during the report period: _____

Number of employees subject to random testing during the report period: _____

Number of Negative Results _____ Number of Positive Results _____

Action taken on employee(s) in response to a failed or positive random test:

Authorized Representative of Contractor/Subcontractor: _____
(typed or printed)

Authorized representative of Contractor/Subcontractor: _____
(signature)

Date: _____

**EMPLOYEE DRUG TESTING
REPORT OF POSITIVE RESULTS**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors who work on Large Public Works Contracts funded all or in part with public funds to notify the Owner in writing of a positive random drug test.

Project Number: _____ 200-16101-16003 _____

Project Name: _____ CSD William Penn H.S – Innovation Center _____

Contractor/Subcontractor Name: _____

Contractor/Subcontractor Address: _____

Name of employee with positive test result: _____

Last 4 digits of employee SSN: _____

Date test results received: _____

Action taken on employee in response to positive test result:

Authorized Representative of Contractor/Subcontractor: _____
(typed or printed)

Authorized Representative of Contractor/Subcontractor: _____
(signature)

Date: _____

This form shall be sent by mail to the Owner within 24 hours of receipt of test results.

Enclose this test results form in a sealed envelope with the notation "Drug Testing Form – DO NOT OPEN" on the face thereof and place in a separate mailing envelope.

SECTION 00 31 13 - PROJECT SCHEDULE

1.1 PROJECT SCHEDULE

- A. This Document with its referenced attachments is part of the Contract Documents. The start and finish dates shown on the schedule are subject to change, but the construction duration days are a requirement of the project. The schedule duration days are business days.
- B. Available Project information includes the following:
 - 1. Project Schedule.
- C. Project schedule including design and construction milestones as appended to this Document.
- D. Related Requirements:
 - 1. Section 011000 "Summary" for phased construction requirements.
 - 2. Section 013200 "Construction Progress Documentation" for Contractor's construction schedule requirements.

END OF DOCUMENT 003113

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
1. Work covered by the Contract Documents.
 2. Type of the Contract.
 3. Work under other contracts.
 4. Products ordered in advance.
 5. Use of premises.
 6. Owner's occupancy requirements.
 7. Work restrictions.
 8. Specification formats and conventions.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: **Bid # 4-17-03 William Penn High School – Innovation Center** Project
Location: **William Penn High School, 713 Basin Road, New Castle, DE 19720.**
- B. Owner: **Colonial School District, 318 East Basin Road, New Castle, Delaware 19720**
- C. Architect: **Tetra Tech, Inc., 240 Continental Drive, Suite 200, Newark, Delaware 19713**
- D. The Work consists of selective demolition and construction for the completion of the Project as shown and as specified including all cutting, patching and refinishing required to restore the premises to the condition prevailing before construction operations began. The Work consists of, but is not limited to:
1. The general scope of the project entails converting the existing library into an Innovation Center with a small library collection. The Center will consist of the following: an open space with flexible furniture and a mix of mobile and fixed bookshelves; a small café which will serve coffee and refreshments/ pastries, a distance learning classroom, a staff office and four collaborative/ study rooms.
- E. Carefully examine the bidding documents, visit the site of the Work, become fully informed as to all existing conditions and limitations, including the structure of the ground, sub-surface conditions, the obstacles which may be encountered, local restrictions, and all other relevant matters concerning the Work to be performed, and include in the Contract a sum to cover the cost of all such items.
1. No extras shall be honored for items which are not accounted for due to lack of field visit.

1.4 TYPE OF CONTRACT

- A. Project will be constructed under a single prime contract with a Mechanical Contractor.
 - 1. Form of Contract will be AIA Document A101 Standard Form of Agreement Between Owner and Contractor where the basis of payment is a STIPULATED SUM.

1.5 WORK SEQUENCE

- A. The Work shall be conducted in accordance with the construction documents:
 - 1. Timely execution of the project is a critical element of the work.
 - 2. Refer to “PROJECT SCHEDULE”, Section 003113 for key dates and deadlines for start or completion of significant portions of the work including key delivery dates for critical equipment.

1.6 WORK UNDER OTHER CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.
- B. Concurrent Work: Owner will award separate contract(s) for the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.
 - 1. Asbestos Abatement: If necessary a separate contract will be awarded for the abatement of asbestos in selected areas of the building.

1.7 COORDINATION WITH OCCUPANTS

- A. Owner Occupancy: Owner will occupy site and building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Project Representative and approval of authorities having jurisdiction.
 - 2. Maintain in operation all life safety provisions and devices (including, but not limited to, fire alarms, fire extinguishers, smoke detectors, heat sensors, emergency and exit lighting, defibrillators, and similar items).
 - 3. Notify Project Representative not less than 72 hours in advance of activities that will affect Owner's operations.
- B. Coordination with School Schedule:
 - 1. Normal School Year: Owner intends to maintain a full educational program during the normal school year throughout duration of Project, and will make full use of the building and site, unless noted otherwise.

- a. School and special activities may be conducted within building and on site outside regular school hours, including holidays and weekends.
- b. Owner's personnel will perform normal custodial and maintenance services for the building areas and systems not involved in construction activities, unless noted otherwise.

1.8 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.
 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
 2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.9 MISCELLANEOUS PROVISIONS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 25 00 – SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Requests for substitution must be made ten days prior to bid. This specification section applies to extra-ordinary conditions that could not be requested during the bidding period.
- B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for handling requests for substitutions made after award of the Contract, but no later than 60 days after commencement of the Work.
- B. Related Sections: The following Divisions contain requirements that relate to this Section:
 - 1. Division 01 specifies the applicability of industry standards to products specified.
 - 2. Division 01 specifies requirements for submitting the Contractor's Construction Schedule and the Submittal Schedule.
 - 3. Division 01 specifies requirements governing the Contractor's selection of products and product options.

1.3 DEFINITIONS

- A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitution:
 - 1. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
 - 2. Revisions to the Contract Documents requested by the Owner or Architect.
 - 3. Specified options of products and construction methods included in the Contract Documents.
 - 4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

- A. Substitution Request Submittal: Substitution requests will only be considered during the bidding period. Substitutions will not be considered after the bids are accepted.
 - 1. Submit three copies of each request for substitution for consideration. Submit requests in the form and according to procedures required for change order proposals and utilizing the CSI Substitution Request Form 13.1A (sample attached to Project Manual). The

contractor is solely responsible for obtaining the required forms to submit before the stated time period expires.

2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
 - a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors that will be necessary to accommodate the proposed substitution.
 - b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as performance, weight, size, durability, and visual effect.
 - c. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.
 - d. Samples, where applicable or requested.
 - e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 - f. Cost information, including a proposal of the net change, if any in the Contract Sum.
 - g. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.
 - h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
4. Architect's Action: If necessary, the Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Architect will notify the Contractor of acceptance or rejection of the substitution within two weeks of receipt of the request, or one week of receipt of additional information or documentation, whichever is later.
 - a. Use the product specified if the Architect cannot make a decision on the use of a proposed substitute within the time allocated.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- a. Conditions: The Architect will receive and consider the Contractor's request for substitution when the following conditions are satisfied, as determined by the Architect. If the following conditions are not satisfied, the Architect will return the requests without action except to record noncompliance with these requirements.
 1. Revisions to the Contract Documents are not required.
 2. Proposed changes are in keeping with the general intent of the Contract Documents.
 3. The request is timely, fully documented, and properly submitted.
 4. The specified product or method of construction cannot be provided within the Contract Time. The Architect will not consider the request if the product or method cannot be

provided as a result of failure to pursue the Work promptly or coordinate activities properly.

5. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. The Owner's additional responsibilities may include compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner, and similar considerations.
 6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
 8. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
- B. The Contractor's submittal and the Architect's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01 26 00 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 01 Section “Allowances” for procedural requirements for handling and processing allowances.

1.3 MINOR CHANGES IN THE WORK

- A. The Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, “Architect’s Supplemental Instructions”.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: The Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by the Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change. Refer to procedures outlined in the *Supplementary Conditions* of the Contract.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to the Architect. Refer to Procedures outlined in the *Supplementary Conditions* of the Contract.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.5 ALLOWANCES

- A. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within 14 days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than 21 days after such authorization.
 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, the Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Work Change Directive: The Architect may issue a Work Change Directive on AIA Document G714. Work Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

NOT FOR CONSTRUCTION

SECTION 01 29 00 – PAYMENT PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.
- B. This Section specifies administrative and procedural requirements governing each prime contractor's Applications for Payment.
 - 1. Coordinate the Schedule of Values and Application for Payment with the Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.
- C. Related Sections: The following Sections contain requirements that relate to this Section.
 - 1. Schedules: The Contractor's Construction Schedule and Submittal Schedule are specified in Division 01 Section "Construction Progress Documentation."
 - 2. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Division 01 Section "Submittal Procedures" for administrative requirements governing the preparation and submittal of the submittal schedule.

1.3 DEFINITIONS

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

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's Construction Schedule.
 - b. Application for Payment forms, including Continuation Sheets.
 - c. List of subcontractors.
 - d. Schedule of allowances.
 - e. Schedule of alternates.
 - f. List of products.
 - g. List of principal suppliers and fabricators.

- h. Schedule of submittals.
 2. Submit the Schedule of Values to the Architect at the earliest possible date but no later than 14 days before the date scheduled for submittal of the initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of the Architect.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of material cost.
 - h. Dollar value of labor cost.
 - i. Dollar value total material and labor cost.
 - 1) Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
 4. Include a like item for "Closeout Documents". This amount shall equal three percent (3%) of the total contract amount.
 5. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
 6. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
 7. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.
9. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner. Each Application for Payment shall be accompanied with copies of the Weekly Certified Payroll Reports as submitted to the Department of Labor for review by the Architect and Owner. This is in addition to the submission of the weekly Certified Payroll Reports to the State of Delaware.
 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment-Application Times: Each progress payment date is indicated in the Agreement. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment. Electronic versions shall only be acceptable if they are identical in format to the G702 and G703 forms.
- D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit 5 signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required.
 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.

- F. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics liens from subcontractors, sub-subcontractors and suppliers for the construction period covered by the previous application.
1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
 - a. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.
- G. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
1. List of subcontractors.
 2. List of principal suppliers and fabricators.
 3. Schedule of Values.
 4. Contractor's Construction Schedule (preliminary if not final).
 5. Schedule of principal products.
 6. Schedule of unit prices.
 7. Submittal Schedule (preliminary if not final).
 8. List of Contractor's staff assignments.
 9. List of Contractor's principal consultants.
 10. Copies of building permits.
 11. Copies of authorizations and licenses from governing authorities for performance of the Work.
 12. Initial progress report.
 13. Report of preconstruction meeting.
 14. Certificates of insurance and insurance policies.
 15. Performance and payment bonds.
 16. Data needed to acquire the Owner's insurance.
 17. Initial settlement survey and damage report, if required.
- H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede or coincide with this application include:
 - a. Occupancy permits and similar approvals.
 - b. Warranties (guarantees) and maintenance agreements.

- c. Test/adjust/balance records.
 - d. Maintenance instructions.
 - e. Meter readings.
 - f. Startup performance reports.
 - g. Changeover information related to Owner's occupancy, use, operation, and maintenance.
 - h. Final cleaning.
 - i. Application for reduction of retainage and consent of surety.
 - j. Advice on shifting insurance coverages.
 - k. Final progress photographs.
 - l. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.
- I. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
1. Completion of Project closeout requirements.
 2. Completion of items specified for completion after Substantial Completion.
 3. Ensure that unsettled claims will be settled.
 4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
 5. Transmittal of required Project construction records to the Owner.
 6. Certified property survey.
 7. Proof that taxes, fees, and similar obligations were paid.
 8. Removal of temporary facilities and services.
 9. Removal of surplus materials, rubbish, and similar elements.
 10. Change of door locks to Owner's access.
- 2 PRODUCTS (Not Applicable)
- 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on the Project including, but not limited to, the following:

- 1. General project coordination procedures.
- 2. Coordination Drawings.
- 3. Administrative and supervisory personnel.
- 4. Project meetings.

- B. Related Sections

- 1. Division 01 Section “Closeout Procedures” for coordinating Contract closeout.

- C. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.

1.3 DEFINITIONS

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

1.4 COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specification to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

- 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
- 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
- 3. Make adequate provisions to accommodate items scheduled for later installation.

- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

- 1. Prepare similar memoranda for the Owner and separate contractors if coordination of their Work is required.

- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of the Contractor's Construction Schedule.
 - 2. Preparation of the Schedule of Values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Pre-installation conferences.
 - 7. Project closeout activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.5 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.
 - 2. Project number.
 - 3. Date.
 - 4. Name of Contractor.
 - 5. Name of Architect[
 - 6. RFI number, numbered sequentially.
 - 7. RFI subject.
 - 8. Specification Section number and title and related paragraphs, as appropriate.
 - 9. Drawing number and detail references, as appropriate.
 - 10. Field dimensions and conditions, as appropriate.
 - 11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 - 12. Contractor's signature.
 - 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within [10] ten days of receipt of the RFI response.

- C. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
- D. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log bi-weekly.

1.6 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
 - 1. Indicate relationship of components shown on separate Shop Drawings.
 - 2. Indicate required installation sequences.
 - 3. Refer to Division 15 Section "Basic Mechanical Materials and Methods" and Division 16 Section "Basic Electrical Materials and Methods" for specific Coordination Drawing requirements for mechanical and electrical installations.
- B. Staff Names: Within 15 days of starting construction operations, submit a list of principal staff assignments, including superintendent and other personnel in attendance at the Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to the Project.
 - 1. Post copies of list in the Project meeting room, in temporary field office, and by each temporary telephone.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at the Project site, unless otherwise indicated.
 - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify the Owner and the Architect of scheduled meeting dates and times.
 - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 - 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including the Owner and the Architect, within 3 days of the meeting.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to the Owner and the Architect, but no later than 15 days after execution of the Agreement. Hold the conference at the Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
 - 1. Attendees: Authorized representatives of the Owner, the Architect, and their consultants; the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.

2. Agenda: Discuss items of significance that could affect progress, including the following:

- a. Tentative construction schedule.
- b. Phasing.
- c. Critical work sequencing.
- d. Designation of responsible personnel.
- e. Procedures for processing field decisions and Change Orders.
- f. Procedures for processing Applications for Payment.
- g. Distribution of the Contract Documents.
- h. Submittal procedures.
- i. Preparation of Record Documents.
- j. Use of the premises.
- k. Responsibility for temporary facilities and controls.
- l. Parking availability.
- m. Office, work, and storage areas.
- n. Equipment deliveries and priorities.
- o. First aid.
- p. Security.
- q. Progress cleaning.
- r. Working hours.

- C. Progress Meetings: Conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.

1. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of the Project.

- a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to the Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
- b. Review present and future needs of each entity present, including the following:

- 1) Interface requirements.
- 2) Sequence of operations.
- 3) Status of submittals.
- 4) Deliveries.
- 5) Off-site fabrication.
- 6) Access.
- 7) Site utilization.
- 8) Temporary facilities and controls.
- 9) Work hours.
- 10) Hazards and risks.
- 11) Progress cleaning.
- 12) Quality and work standards.
- 13) Change Orders.
- 14) Documentation of information for payment requests.

2. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
 - a. Schedule Updating: Revise the Contractor’s Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

NOT FOR CONSTRUCTION

SECTION 01 31 20 – PAYROLL REPORTS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for schedules and reports required for proper performance of the Work, including:
 - 1. State of Delaware Payroll Reports.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 01 Section "Payment Procedures" specifies requirements for submittal of the Schedule of Values.
 - 2. Division 01 Section "Project Meetings" specifies requirements for submittal and distribution of meeting and conference minutes.

1.3 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of schedules and reports with performance of other construction activities.

1.4 PAYROLL REPORTS

- A. State of Delaware Payroll Reports: As required by the State of Delaware, Section 6912, Title 29, of the Delaware Code, payroll wages shall be reported weekly to the Delaware Department of Labor, Division of Industrial Affairs, 4425 North Market Street, Wilmington, DE 19802, phone 302/761-8200. Forms shall be available at the above address. A sample copy of the form is attached under contract forms, State of Delaware Payroll Report.
- B. Payroll wages to be reported weekly, via electronic transmission to Colonial School District Construction Office.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01 32 00 – CONSTRUCTION PROGRESS DOCUMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

- 1. Preliminary Construction Schedule.
- 2. Contractor's Construction Schedule.
- 3. Submittals Schedule.
- 4. Daily construction reports.
- 5. Material location reports.
- 6. Field condition reports.
- 7. Preconstruction Photographs
- 8. Construction photographs.

- B. Related Sections include the following:

- 1. Division 01 Section "Payment Procedures" for submitting the Schedule of Values.
- 2. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
- 3. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
- 4. Division 01 Section "Closeout Procedures" for submitting construction photographs as Project Record Documents at Project closeout.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

- 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
- 2. Predecessor activity is an activity that must be completed before a given activity can be started.

- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

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

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

- E. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- F. Major Area: A story of construction, a separate building, or a similar significant construction element.
- G. Milestone: A key or critical point in time for reference or measurement.
- H. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
- I. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 SUBMITTALS

- A. Qualification Data: For firms and persons specified in “Quality Assurance” Article and in-house scheduling personnel to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
 - 1. Scheduled date for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational).
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
- C. Contractor’s Construction Schedule: Submit three printed copies of initial schedule, one a reproducible print and one a blue- or black-line print, large enough to show entire schedule for entire construction period.
- D. CPM Reports: Concurrent with CPM schedule, submit three printed copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - 3. Total Float Report: List of all activities sorted in ascending order of total float.

E. Photographic Documentation:

1. Preconstruction Photographs: Before commencement of demolition, take color, digital photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.
2. Periodic Construction Photographs: Take 12, color, digital photographs monthly with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
 - a. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.
 - b. Format: 4-by-6-inch (101-by-152-mm) smooth-surface matte prints on single-weight commercial-grade stock.
 - c. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:
 - 1) Name of Project.
 - 2) Name and address of photographer.
 - 3) Name of Architect.
 - 4) Name of Contractor.
 - 5) Date photograph was taken.
 - 6) Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - d. Digital Images: Submit a complete set of digital image electronic files with each submittal of prints on CD-ROM. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, uncropped.
 - e. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

F. Daily Construction Reports: Submit two copies at weekly intervals.

G. Material Location Reports: Submit two copy at weekly intervals.

H. Field Condition Reports: Submit two copy at weekly intervals.

1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting.

1.6 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 2. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. CPM Schedule: Prepare Contractor's Construction Schedule using a CPM network analysis diagram.
 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 15 days after date established for the Notice to Proceed..
 2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
 3. Use "one workday" as the unit of time.
- B. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.
 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Preparation and processing of submittals.
 - b. Mobilization and demobilization.
 - c. Purchase of materials.
 - d. Delivery.
 - e. Fabrication.
 - f. Utility interruptions.
 - g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Testing

2. Processing: Process data to produce output data or a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
3. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
 - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- C. Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting. Include the following:
 1. Identification of activities that have changed.
 2. Changes in early and late start dates.
 3. Changes in early and late finish dates.
 4. Changes in activity durations in workdays.
 5. Changes in the critical path.
 6. Changes in total float or slack time.
 7. Changes in the Contract Time
 - a. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. High and low temperatures and general weather conditions.
 5. Accidents.
 6. Meetings and significant decisions.
 7. Unusual events (refer to special reports).
 8. Stoppages, delays, shortages, and losses.
 9. Meter readings and similar recordings.
 10. Emergency procedures.
 11. Orders and requests of authorities having jurisdiction.
 12. Change Orders received and implemented.
 13. Construction Change Directives received.
 14. Services connected and disconnected.
 15. Equipment or system tests and startups.
 16. Partial Completions and occupancies.
 17. Substantial Completions authorized.
- B. Material Location Reports: At monthly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

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

PART 3 - EXECUTION (not used)

END OF SECTION

NOT FOR CONSTRUCTION

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
1. Process designated submittals for the Project electronically through designated email system.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's and responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.
- D. Email System: A method to transmit certain electronic submittals between the Contractor, Architect, and Owner, via email.
1. For consistency, the standard file format will be PDF. Convert paper originals and other file formats to PDF prior to submission.
 2. In the event of system malfunction, submittals shall be processed in accordance with the Architect's instructions, until the system malfunction has been corrected.
 3. For this Project, process the following submittal types through the designated email system:
 - a. Product Data.
 - b. Shop Drawings.
 - c. Product Schedules.
 - d. Qualification Data.

- e. Certificates (Welding, Installer, Manufacturer, Product, and Material, as applicable).
 - f. Test Reports (Material, Product, Preconstruction, Compatibility, and Field, as applicable).
 - g. Research Reports.
 - h. Warranty (sample).
 - i. Design Data, including calculations.
 - j. Coordination Drawings.
 - k. Delegated-Design Services Certifications.
4. For Samples, provide electronic submittal of Sample cover sheet, identifying location and actual delivery date of Samples. Deliver Samples to location (Architect's office, Project site, etc.) as directed by the Architect.
- a. Architect will identify delivery location(s) after receipt and review of Contractor's Submittal Schedule.

1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit a schedule of submittals indicating scheduled date for each submission. Factor time required for review, ordering, manufacturing, fabrication, and delivery when establishing submission dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. Submit concurrently with the first complete submittal of Contractor's construction schedule.
 2. Format: Arrange the following information in a tabular format:
 - a. Specification Section number and title.
 - b. A/E Number
 - 1) Architect will furnish Contractor with unique "A/E Number" designation for each required submittal.
 - c. Submittal category: Action; informational.
 - d. Submittal type: Product Data, Shop Drawings, Samples, etc.
 - e. Description of the Work covered.
 - f. Scheduled date for first submittal.

1.5 COLOR SCHEDULE

- A. Color Schedule: Within 30 days after date of Notice of Award, submit a complete list of proposed manufacturers and complete product designations (i.e. model, grade, series, product line, etc.) for each item requiring color selection by Architect.

1.6 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Where indicated, submit all submittal items required for each Specification Section concurrently.
 3. Coordinate transmittal of different types of submittals for related parts of the work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Processing Time: Allow sufficient time for submittal review, including time for resubmittals. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
- C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Include a cover sheet on each submittal item for identification. Do not combine different submittals under same cover sheet; only one submittal is to be provided per email.
 - a. Cover Sheet: Use PDF version of sample form included in Project Manual. Complete each item on form sign and date. Architect will furnish PDF version of sample form.
 2. Name submittal file as directed by Architect.
 3. Transmit each submittal via email using subject line as directed by Architect.
 4. Send submittal to designated Project-specific email address:
 - a. Use the following email address: TAE.<Project name>@tetrattech.com
- D. Resubmittals: Make resubmittals in same form and, for non-electronic submittals, in the same number of copies as initial submittal.
1. Note date and content of revision in label or title block and clearly indicate extent of revision.
 2. Resubmit submittals until they are marked with approval notation from Architect.
 3. Refer to Supplementary Conditions for provisions allowing Owner to obtain reimbursement from the Contractor for amounts paid to the Architect for evaluation of certain resubmittals.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities.

- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES, GENERAL

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

2.2 ELECTRONIC SUBMITTAL PROCEDURES

- A. Use the designated email system for submittals in this Article.
1. Submit electronic submittals via email as PDF electronic files
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. Mark submittal to show which products and options are applicable.
 2. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Statement of compliance with specified referenced standards.
 - c. Testing by recognized testing agency.
 3. For equipment, include the following in addition to the above, as applicable:
 - a. Printed performance curves.
 - b. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of dimensions established by field measurement.
 - e. Relationship and attachment to adjoining construction clearly indicated.

- f. Seal and signature of professional engineer if specified.
- D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- E. Certificates:
1. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Submit written statements of manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 5. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- F. Test Reports:
1. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
 2. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
 3. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
 4. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
 5. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- G. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- H. Warranty: Submit sample warranties as required in individual Specification Sections.
- I. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations.

Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

- J. Coordination Drawing Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- K. Delegated-Design Services Certification: Submit certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.
 - 2. In addition, for a project in New Jersey, provide three paper copies of certificate, signed and sealed (with raised seal) by the responsible design professional.

2.3 NON-ELECTRONIC SUBMITTAL PROCEDURES

- A. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
 - 1. Transmit Samples that contain multiple related components such as accessories together in one submittal package.
 - 2. Identification: Attach label on one exposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit three full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.
 - 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing

color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit three sets of Samples. Architect will return one set.

1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

B. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Submit subcontract list in the following format:

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

C. Key Personnel Names: No later than 15 days after date of Notice of Award, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site.

1. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including emergency, office, and cellular telephone numbers and email addresses.

a. Number of Copies: Four paper copies of key personnel list, unless otherwise indicated.

D. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."

E. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

2.4 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Identify any deviations from Contract Document requirements. Mark cover sheet with approval before submitting to Architect.
1. Sign and date statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will mark submittal appropriately to indicate action, as follows:
1. Final Unrestricted Release: Where the submittal is marked "Approved," the Work covered by the submittal may proceed provided it complies with the Contract Documents. Final acceptance will depend on that compliance.
 2. Final-but-Restricted Release: Where the submittal is marked "Approved as Noted," the Work covered by the submittal may proceed provided it complies both with Architect's notations and corrections on the submittal and the Contract Documents. Final acceptance will depend on that compliance.
 3. Resubmit: Where the submittal is marked "Approved, Revise and Return Corrected Copies," the Work covered by the submittal may proceed provided it complies both with Architect's notations and corrections on the submittal and the Contract Documents. Revise submittal according to Architect's notations and corrections and return corrected copies. Final acceptance will depend on that compliance.
 4. Rejected: Where the submittal is marked "Rejected," do not proceed with the Work covered by the submittal. Prepare a new submittal for a product that complies with the Contract Documents.
 5. Incomplete - Resubmit: Where the submittal is marked "Incomplete, Submit Additional Information," do not proceed with the Work covered by the submittal. Prepare additional information requested, or required by the Contract Documents, that indicates compliance with requirements, and resubmit.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

- E. Limit information submitted to specific products indicated. Do not submit extraneous matter. Submittals containing excessive extraneous matter will be returned for resubmittal without review.
- F. Submittals not required by the Contract Documents may be returned by the Architect without action.

Attachment[s]: Submittal Cover Sheet
 Delegated Design Submittal Form

END OF SECTION

NOT FOR CONSTRUCTION

CONTRACTOR: _____

SUBMITTAL DATE ___/___/___

Check following as applicable:
 First Submission
 Re-submission

ARCHITECT: Tetra Tech Architects & Engineers

PROJECT IDENTIFICATION

Architect's Project No.: _____

Proj. Name: _____

Location: _____

PRODUCT IDENTIFICATION

Specification Section No. _____

A/E Submittal No. _____

Name of Product: _____

Name of Manufacturer: _____

SUBCONTRACTOR

SUPPLIER

RELATIONSHIP TO STRUCTURE

Building Name _____

(Room #) _____ (Room Name) _____

Contract Drawing No.: _____

DEVIATION FROM CONTRACT DOCUMENTS: _____

CONTRACTOR COMMENTS: _____

ARCHITECT'S COMMENTS: _____

CONTRACTOR'S STAMP

RESERVED FOR USE BY TETRA TECH

ACTION SUBMITTAL:

- Approved
- Approved As Noted
- Approved, Revise and Return Corrected Copies
- Rejected
- Incomplete, Submit Additional Information

INFORMATIONAL SUBMITTAL:

- No Action Taken
- Returned for Resubmittal

Reviewed By: _____

Date: _____

Reviewed only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. Review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences or procedures.

CONTRACTOR'S CERTIFICATION

I CERTIFY THAT THIS SUBMITTAL HAS BEEN REVIEWED AND APPROVED BY THE CONTRACTOR IN ACCORDANCE WITH THE GENERAL CONDITIONS.

BY _____

CONSTRUCTION MANAGER'S CERTIFICATION

I CERTIFY THAT THIS SUBMITTAL HAS BEEN REVIEWED AND APPROVED BY THE CONSTRUCTION MANAGER IN ACCORDANCE WITH THE GENERAL CONDITIONS.

BY _____

CM Submittal No. _____

DELEGATED DESIGN SUBMITTAL

CONTRACTOR: _____

SUBMITTAL DATE ___ / ___ / ___

DESIGN PROFESSIONAL: _____

Check following as applicable:

- First Submission
- Re-submission

ARCHITECT: Tetra Tech Architects & Engineers

PROJECT IDENTIFICATION

Architect's Project No.: _____

Proj. Name: _____

Location: _____

PRODUCT IDENTIFICATION

Specification Section No. _____

A/E Submittal No. _____

Name of Product: _____

Name of Manufacturer: _____

SUBCONTRACTOR

SUPPLIER

RELATIONSHIP TO STRUCTURE

Building Name _____

(Room #)

(Room Name)

Contract Drawing No.: _____

DEVIATION FROM CONTRACT DOCUMENTS:

DESIGN PROFESSIONAL'S COMMENTS:

CONTRACTOR COMMENTS:

ARCHITECT'S COMMENTS:

CONSTRUCTION MANAGER'S CERTIFICATION

I certify that this submittal has been reviewed and approved by the Construction Manager in accordance with the General Conditions.

BY _____

CM Submittal No. _____

CONTRACTOR'S STAMP

RESERVED FOR USE BY TETRA TECH

ACTION SUBMITTAL:

- Approved
- Approved As Noted
- Approved, Review and Return Corrected Copies
- Rejected
- Incomplete, Submit Additional Information

INFORMATIONAL SUBMITTAL:

- No Action Taken
- Returned for Resubmittal

Reviewed By: _____

Date: _____

Reviewed only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. Review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences or procedures.

DESIGN PROFESSIONAL'S CERTIFICATION

I certify that I am a design professional currently licensed in New York State and confirm my responsibility for work included in this submittal in accordance with the General Conditions. Further, I certify that to the best of my knowledge, information and belief, the plans and specifications are in accordance with applicable requirements of the New York State Uniform Fire Prevention and Building Code, the State Energy Conservation Construction Code and construction standards of the Education Department.

BY _____

CONTRACTOR'S CERTIFICATION

I certify that this submittal has been reviewed and approved by the Contractor in accordance with the General Conditions.

BY _____

Use and Indemnification Agreement - INSTRUCTIONS

USE AND INDEMNIFICATION AGREEMENT

Please be aware that Tetra Tech charges contractor(s) for electronic files (this applies to files in AutoCAD (or similar) format).

PDF's, which are simply an electronic scan of the drawings, do not require the use of the indemnification form; however we charge \$50 per PDF to cover our expenses. Tetra Tech must receive the contractor's check prior to sending PDF's.

For AutoCAD type files, the cost is \$100 per electronic drawing, regardless of the number of drawings they are requesting. The Use and Indemnification Agreement is to be signed by the Prime Contractor. Should a subcontractor, such as a steel fabricator, ductwork detailer, desire electronic files, they would need to pursue this request through their Prime Contractor who has the contract with the Client.

Due to the inherent value to the company of our typical details and our other standards, we limit the drawings types that we will release via this indemnification form to plan type drawings. Typical detail sheets are not to be released in the form of an electronic AutoCAD drawing file.

In addition, our internal individual Base Plans should not be released; we limit what the contractor can purchase to the actual individual contract drawings.

Our fee for the cost of electronic AutoCAD files or "pdf" is not to be waived, without the approval of the Project Manager and the Regional Manager or Operations Manager.

After the Prime Contractor has determined the number of drawings that they will need, fill out the following two pages. The second page of the form, marked Use and Indemnification Agreement – Business Office, needs to be sent to the Business Office with the Contractor check made out to Tetra Tech. We will not release electronic files until we receive this form and the check.

NOT FOR CONSTRUCTION



240 Continental Drive, Suite 200
 Newark, Delaware 19713
 Tel. (302) 738-7551
 Fax (302) 454-5980

Use and Indemnification Agreement

Re: WILLIAM PENN H.S. – INNOVATION CENTER

Tt Project No. 200-16101-16006

Whereas, _____ (hereinafter the “Contractor”), acknowledges that it has requested certain electronic files and/or media of the Drawings and/or Specifications for the above-referenced Project which are the property of Tetra Tech Engineers, Architects & Landscape Architects, P.C. d/b/a Tetra Tech Architects & Engineers (hereinafter “Tetra Tech”).

Whereas, Contractor further acknowledges all requests for electronic files require a pre-payment of \$100/file (Each individual drawing in the set of Contract Documents represents 1 file), regardless of the number of files requested, prior to receiving said files from Tetra Tech.

Now, therefore, Contractor hereby warrants and covenants that it will abide by the following provisions:

A. Indemnification

1. In consideration of permission to use electronic files or media, including but not limited to electronic files of drawings created by use of computer, for the Work of this Project only, and which the Contractor has requested from Tetra Tech, the Contractor, to the fullest extent permitted by law, hereby agrees to indemnify and hold harmless Tetra Tech, its agents, employees, officers, directors and consultants from and against any and all claims, damages, losses and expenses, including any attorneys' fees, arising out of, resulting from or in connection with any and all use of said electronic materials, but only if such claim, damage, loss or expense is caused in whole or in part by the Contractor, its employees, agents, officers, directors, or any other party directly or indirectly employed by any of them or any party for whose acts any of them may be liable, regardless of whether or not it is caused by a party indemnified hereunder. Such obligation shall not be construed to reduce or negate any other right or obligation of indemnification that would otherwise exist as to any party hereto. This indemnification shall not apply to the liability of the indemnitee arising out of its own negligence. This indemnification shall not be limited in any way because of any limitation on damages, compensation or benefits under any statute, law or governmental requirement of any sort.
2. The following shall be included within the definition of "expenses" herein: (a) any time expended by the indemnified party of its employees, agents, officers and directors at their usual and customary billing rates, as well as all out-of-pocket expenses such as long-distance telephone calls, costs of reproduction, expenses of travel and lodging; (b) all costs and expenses of experts, consultants, engineers, and any other party retained by the indemnified party reasonably required to defend the claim; (c) all costs, including reasonable attorneys' fees, incurred in bringing any action to enforce the provisions of this indemnification. The following shall be included within the definition of "action" herein: any case brought in any state or federal court, any arbitration, any mediation, and any similar forum for resolution of any dispute herein, and shall also include any counterclaim or third-party action in any such forum.

B. Use and Compatibility

1. Tetra Tech' instruments of service are furnished without guarantee of compatibility with the Contractor's software or hardware, and Tetra Tech' sole responsibility for the electronic media is to furnish a replacement for defective disks within thirty (30) days after delivery to Contractor.
2. Because data stored on electronic media can deteriorate undetected or be modified without Tetra Tech' knowledge, the Contractor agrees that Tetra Tech will not be held liable for the completeness or correctness of the electronic media after an acceptance period of thirty (30) days after delivery of the electronic files. Tetra Tech does confirm the accuracy of the final sealed hard copy drawings, previously submitted pursuant to the Prime Agreement for this Project.
3. The electronic files are submitted to the Contractor for a thirty (30) day acceptance period. During this period, the Contractor may review and examine these files, and any errors detected during this time will be corrected by Tetra Tech. Any changes requested after the acceptance period will be considered additional services to be performed on a time and materials basis, at Tetra Tech's standard cost plus terms and conditions.
4. Tetra Tech retains ownership of the printed hard copy Drawings and Specifications and the electronic media. The Contractor is granted a license for their use, but only in the operation and maintenance of the Project. Use of these materials for modification, extension, or expansion of this Project or any other project, unless under the direction of Tetra Tech, shall be without liability to Tetra Tech and Tetra Tech's consultants.

IN WITNESS WHEREOF:

Contractor: _____
 Signed name: _____
 Printed Name: _____
 Title: _____
 Date: _____

If transmission is not received as noted, kindly notify us at once.



240 Continental Drive, Suite 200
Newark, Delaware 19713
Tel. (302) 738-7551
Fax (302) 454-5980

Use and Indemnification Agreement – Business Office

.....
Electronic Drawing Files

Prime Contractor Name

Prime Contractor Address

Contact to Receive Invoices

Project Name WILLIAM PENN H.S. – INNOVATION CENTER

Project Number 200-16101-16006

Number of Drawing Files (Each individual drawing in the set of Contract Documents represents 1 file)

List each Drawing # Requested

Contractor Signature _____

NOT FOR CONSTRUCTION

SECTION 01 40 00 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit the Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for the Contractor to provide quality-control services required by the Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections:
 - 1. Division 01 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
 - 2. Divisions 02 through 49 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by the Architect.
- C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

- E. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
- F. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

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

1.5 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Test and Inspection Reports: Prepare and submit certified written reports that include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Ambient conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- C. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of technical representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.

3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

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

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- F. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
- G. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 329, and that specializes in types of tests and inspections to be performed.
- H. Preconstruction Testing: Testing agency shall perform preconstruction testing for compliance with specified requirements for performance and test methods.
 1. Contractor responsibilities include the following:
 - a. Provide test specimens and assemblies representative of proposed materials and construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product to comply with performance requirements.

- b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to the Architect, with copy to the Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as the Owner's responsibility, the Owner will engage a qualified testing agency to perform these services.
1. The Owner will furnish the Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
 2. Payment for these services will be made by the Owner.
 3. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to the Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
1. Where services are indicated as the Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 2. Notify testing agencies at least seven (7) days in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as the Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by the Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- D. Retesting/Re-inspecting: Regardless of whether original tests or inspections were the Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with the Architect and the Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify the Architect and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Architect.
 4. Identification of testing agency or special inspector conducting test or inspection
- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are the Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

NOT FOR CONSTRUCTION

SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

D. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

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

CFR Code of Federal Regulations (888) 293-6498
Available from Government Printing Office (202) 512-1530
www.gpoaccess.gov/cfr/index.html

CRD Handbook for Concrete and Cement (601) 634-2355
Available from Army Corps of Engineers
Waterways Experiment Station
www.wes.army.mil

DOD Department of Defense Military Specifications and Standards (215) 697-6257
Available from Department of Defense Single Stock Point
www.dodssp.daps.mil

DSCC Defense Supply Center Columbus
(See FS)

FED-STD Federal Standard
(See FS)

FS Federal Specification (215) 697-6257
Available from Department of Defense Single Stock Point
www.dodssp.daps.mil

Available from General Services Administration (202) 501-1021
www.fss.gsa.gov

Available from National Institute of Building Sciences (202) 289-7800
www.nibs.org

FTMS Federal Test Method Standard
(See FS)

ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
MIL-STD	(See MILSPEC)	
MILSPEC	Military Specification and Standards Available from Department of Defense Single Stock Point www.dodssp.daps.mil	(215) 697-6257
NES	(Formerly: National Evaluation Service) (See ICC-ES)	
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc (The) www.aluminum.org	(202) 862-5100
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists (The) www.aatcc.org	(919) 549-8141
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	ACI International (American Concrete Institute) www.aci-int.org	(248) 848-3700

ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHA	American Hardboard Association (Now part of CPA)	
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America www.alca.org	(800) 395-2522 (703) 736-9666
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts www.aosaseed.com	(505) 522-1437
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989

API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (The American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (212) 591-7722
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9585
AWCI	AWCI International (Association of the Wall and Ceiling Industries International) www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association (Now WCSC)	
AWI	Architectural Woodwork Institute www.awinet.org	(800) 449-8811 (703) 733-0600
AWPA	American Wood-Preservers' Association www.awpa.com	(334) 874-9800
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010

BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
	Cast Stone Institute www.caststone.org	(770) 972-3011
CCC	Carpet Cushion Council www.carpetcushion.org	(203) 637-1312
CDA	Copper Development Association Inc. www.copper.org	(800) 332-3282 (212) 251-7200
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CPA	Composite Panel Association www.pbma.com	(301) 670-0604
CPPA	Corrugated Polyethylene Pipe Association www.cppa-info.org	(800) 510-2772 (202) 462-9607
CRI	Carpet & Rug Institute (The) www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(800) 463-6727 (416) 747-4000
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute	(703) 222-2010

	www.dhi.org	
EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee www.asce.org	(800) 548-2723 (703) 295-6500
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
FCI	Fluid Controls Institute www.fluidcontrolsinstitute.org	(216) 241-7333
FM	Factory Mutual System (Now FMG)	
FMG	FM Global (Formerly: FM - Factory Mutual System) www.fmglobal.com	(401) 275-3000
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	52 951 5146905
GA	Gypsum Association www.gypsum.org	(202) 289-5440
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900

HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (Now CSA International)	
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IESNA	Illuminating Engineering Society of North America www.iesna.org	(212) 248-5000
IGCC	Insulating Glass Certification Council www.igcc.org	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance (The) www.igmaonline.org	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
ISO	International Organization for Standardization www.iso.ch	41 22 749 01 11
ISSFA	International Solid Surface Fabricators Association www.issfa.net	(702) 567-8150
ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LMA	Laminating Materials Association (Now part of CPA)	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864 (847) 577-7200
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333

MFMA	Maple Flooring Manufacturers Association www.maplefloor.org	(847) 480-9138
MFMA	Metal Framing Manufacturers Association www.metalframingmfg.org	(312) 644-6610
MH	Material Handling (Now MHIA)	
MHIA	Material Handling Industry of America www.mhia.org	(800) 545-1615 (704) 776-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(312) 332-0405
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAIMA	North American Insulation Manufacturers Association (The) www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-3550
NEBB	National Environmental Balancing Bureau	(301) 977-3698

	www.nebb.org	
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(303) 697-8441
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	National Oak Flooring Manufacturers Association www.nofma.org	(901) 526-5016
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. www.ntma.com	(800) 323-9736 (540) 751-0930

NTRMA	National Tile Roofing Manufacturers Association (Now TRI)	
NWWDA	National Wood Window and Door Association (Now WDMA)	
OPL	Omega Point Laboratories, Inc. www.opl.com	(800) 966-5253 (210) 635-8100
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0500
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PGI	PVC Geomembrane Institute http://pgi-tp.ce.uiuc.edu	(217) 333-3929
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	(800) 644-2400 (312) 670-2400
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
RIS	Redwood Inspection Service www.calredwood.org	(888) 225-7339 (415) 382-0662
SAE	SAE International www.sae.org	(724) 776-4841
SDI	Steel Deck Institute www.sdi.org	(847) 462-1930
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(516) 294-5424
SEI	Structural Engineering Institute www.seinstitute.com	(800) 548-2723 (703) 295-6195
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234

SIA	Security Industry Association www.siaonline.org	(703) 683-2075
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)	
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smacentral.org	(561) 333-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division) www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau (The) www.spib.org	(850) 434-2611
SPI/SPFD	Society of the Plastics Industry, Inc. (The) Spray Polyurethane Foam Division (Now SPFA)	
SPRI	SPRI (Single Ply Roofing Institute) www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCA	Tile Council of America, Inc. www.tileusa.com	(864) 646-8453

TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(608) 833-5900
TRI	Tile Roofing Institute (Formerly: RTI - Roof Tile Institute) www.tilerroofing.org	(312) 670-4177
UL	Underwriters Laboratories Inc. www.ul.com	(800) 285-4476 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USGBC	U.S. Green Building Council www.usgbc.org	(202) 828-7422
USITT	United States Institute for Theater Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association (Now WCSC)	
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association) www.windowcoverings.org	(800) 506-4636 (212) 661-4261
NWDA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (847) 299-5200
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WIC	Woodwork Institute of California (Now WI)	

WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 548-0112
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

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

BOCA	BOCA International, Inc. (See ICC)	
CABO	Council of American Building Officials (See ICC)	
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICBO	International Conference of Building Officials (See ICC)	
ICBO ES	ICBO Evaluation Service, Inc. (See ICC-ES)	
ICC	International Code Council (Formerly: CABO Council of American Building Officials) www.iccsafe.org	(703) 931-4533
ICC-ES	ICC Evaluation Service, Inc. www.iccsafe.org	(800) 423-6587 (562) 699-0543
NES	National Evaluation Service (See ICC-ES)	
SBCCI	Southern Building Code Congress International, Inc. (See ICC)	

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

CE	Army Corps of Engineers www.usace.army.mil	
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CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-6816
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense www.dodssp.daps.mil	(215) 697-6257
DOE	Department of Energy www.eren.doe.gov	(202) 586-9220
EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration www.faa.gov	(202) 366-4000
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(800) 488-3111 (202) 501-1888
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
FBS	Public Building Service (See GSA)	
PHS	Office of Public Health and Science http://phs.os.dhhs.gov	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540

SD	State Department www.state.gov	(202) 647-4000
TRB	Transportation Research Board www.nas.edu/trb	(202) 334-2934
USDA	Department of Agriculture www.usda.gov	(202) 720-2791
USPS	Postal Service www.usps.com	(202) 268-2000

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

OMB/DFM	Office of Management and Budget, Department of Facilities Management, Thomas Collins Building, 540 Dupont Highway, Suite 1, Dover, DE 19901 www.dfm.delaware.gov	(302) 739-5644
TFS	Texas Forest Service Forest Products Laboratory http://txforests-service.tamu.edu	(936) 639-8180

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

- B. Temporary utilities include, but are not limited to, the following:

1. Sewers and drainage.
2. Water service and distribution.
3. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
4. Heating and cooling facilities.
5. Ventilation.
6. Electric power service.
7. Lighting.
8. Telephone service.

- C. Support facilities include, but are not limited to, the following:

1. Temporary roads and paving.
2. Dewatering facilities and drains.
3. Project identification and temporary signs.
4. Waste disposal facilities.
5. Field offices.
6. Storage and fabrication sheds.
7. Lifts and hoists.
8. Temporary elevator usage.
9. Temporary stairs.
10. Construction aids and miscellaneous services and facilities.

- D. Security and protection facilities include, but are not limited to, the following:

1. Environmental protection.
2. Storm water control.
3. Tree and plant protection.
4. Pest control.
5. Site enclosure fence.
6. Security enclosure and lockup.
7. Barricades, warning signs, and lights.
8. Covered walkways.
9. Temporary enclosures.
10. Temporary partitions.
11. Fire protection.

E. Related Sections include the following:

1. Division 01 Section “Submittal Procedures” for procedures for submitting copies of implementation and termination schedule and utility reports.

1.3 USE CHARGES

A. Temporary water and electric will be provided by the Owner.

1.4 QUALITY ASSURANCE

A. Standards: Comply with ANSI A10.6, NECA’s “Temporary Electrical Facilities” and NFPA 241.

1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and other jurisdictions.
2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

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

1.5 PROJECT CONDITIONS

A. Temporary Utilities: At earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.

1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before the Owner’s acceptance, regardless of previously assigned responsibilities.

B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:

1. Keep temporary services and facilities clean and neat.
2. Relocate temporary services and facilities as required by progress of the Work.
3. Locations for staging areas and parking areas for construction personnel shall be as directed by Owner.

PART 2 PRODUCTS

2.1 MATERIALS

A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by the Architect. Provide materials suitable for use intended.

2.2 EQUIPMENT

A. General: Provide equipment suitable for use intended.

- B. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- C. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- D. Heating Equipment: Unless the Owner authorizes use of permanent heating system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. Heating Units: Listed and labeled, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use for type of fuel being consumed.
- E. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- F. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125 V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

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

3.2 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Use of the Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to the Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
 - 1. Provide rubber hoses as necessary to serve the Project site.
 - 2. Where installations below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.

- B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 2. Toilets: Use of the Owner's existing toilet facilities will not be permitted, as long as facilities are cleaned and maintained in a condition acceptable to the Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed.
1. Maintain a minimum temperature of 50 deg F (10 deg C) in permanently enclosed portions of building for normal construction activities, and 65 deg F (18.3 deg C) for finishing activities and areas where finished Work has been installed.
- D. Electric Power Service: Use of the Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to the Owner.
- E. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.
1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- F. Telephone Service:
1. Provide a portable cellular telephone for superintendent's use in making and receiving telephone calls when away from field office.
 2. Install a coin-operated telephone station at a convenient grade-level location for convenience of personnel.
- G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.
1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.

3.3 OPERATION, TERMINATION, AND REMOVAL

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

1. Materials and facilities that constitute temporary facilities are the property of the Contractor. The Owner reserves right to take possession of the Project identification signs.
2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 01 Section “Closeout Procedures.”

END OF SECTION

NOT FOR CONSTRUCTION

SECTION 01 73 00 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. General installation of products.
 - 4. Coordination of Owner-installed products.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
 - 8. Correction of the Work.

1.3 SUBMITTALS

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

1.4 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
 3. Employ professional land surveyor or utility mapping service to locate existing utilities including primary electrical service.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work.
 - b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.
3. PREPARATION
- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before

fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Submit requests on CSI Form 13.2A, "Request for Interpretation."

3.3 CONSTRUCTION LAYOUT

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

3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 4. Maintain minimum headroom clearance of 8 feet (2.4 m) in spaces without a suspended ceiling.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.

2. Allow for building movement, including thermal expansion and contraction.
 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction forces.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces.
1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 2. Preinstallation Conferences: Include Owner's construction forces at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction forces if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

- D. **Installed Work:** Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. **Concealed Spaces:** Remove debris from concealed spaces before enclosing the space.
- F. **Exposed Surfaces in Finished Areas:** Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. **Waste Disposal:** Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. **During handling and installation,** clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. **Clean and provide maintenance on completed construction** as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. **Limiting Exposures:** Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. **Start equipment and operating components** to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. **Adjust operating components** for proper operation without binding. Adjust equipment for proper operation.
- C. **Test each piece of equipment** to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. **Manufacturer's Field Service:** If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

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

3.10 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 01 Section "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION

NOT FOR CONSTRUCTION

SECTION 01 73 29 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. Related Sections include the following:
 - 1. Division 02 Section "Selective Structure Demolition" for demolition of selected portions of the building.
 - 2. Divisions 02 through 49 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
 - 3. Division 07 Section "Penetration Firestopping" for patching fire-rated construction.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
 - 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.

7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include the following:
 1. Primary operational systems and equipment.
 2. Air or smoke barriers.
 3. Fire-suppression systems.
 4. Mechanical systems piping and ducts.
 5. Control systems.
 6. Communication systems.
 7. Electrical wiring systems.
 8. Operating systems of special construction in Division 13 Sections.
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:
 1. Water, moisture, or vapor barriers.
 2. Membranes and flashings.
 3. Exterior curtain-wall construction.
 4. Equipment supports.
 5. Piping, ductwork, vessels, and equipment.
 6. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.6 WARRANTY

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

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or

adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable means that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

SECTION 01 74 00 – WARRANTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.

- 1. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.

- B. Related Sections: The following Sections contain requirements that relate to this Section:

- 1. Division 01 Section "Submittal Procedures" specifies procedures for submitting warranties.
 - 2. Division 01 Section "Closeout Procedures" specifies contract closeout procedures.
 - 3. Divisions 02 through 49 Sections for specific requirements for warranties on products and installations specified to be warranted.
 - 4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.

- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.

- B. Reinstatement of Warranty: 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. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefitted from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Expressed 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. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

- A. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect'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 Architect.
 - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within 15 days of completion of that designated portion of the Work.
- B. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, 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 Architect, for approval prior to final execution.
- C. Form of Submittal: At Final Completion compile 2 copies of each required warranty 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.
- D. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.

1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.
2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the Contractor.
3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

1.6 Roof System Warranty

- A. Modified Bitumen Roof System: After review and acceptance of the Notice of Award and the submission of all required documents to the manufacturer for the roof system application by a registered applicator, a satisfactorily complete Final Inspection performed by the Owner or Owner's representative, inspection and acceptance of the roof by the manufacturer, and payment of all invoices and the discharge of all other financial obligations occasioned by or arising out of the course of this work according to the Contract, submit to the Owner the roof system manufacturer's non-deductible Twenty (20) Year Total Roof System Warranty with a no-dollar limit (NDL) for the installation covering Materials inclusive of the roofing membrane, base flashing, base sheets, insulation and insulation fasteners and Workmanship described in the following specifications.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 LIST OF WARRANTIES

- A. Schedule: Provide warranties on products and installations as specified in the following Sections:
 1. Workmanship Guarantee: Section 017400 – Warranties.
 2. Modified Bitumen Membrane (MBM) Roofing: Manufacturer's re-certification of original warrantee.
 3. All mechanical and electrical equipment divisions 22, 23, 26 and 27.

END OF SECTION

SECTION 01 77 00 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract close out, including, but not limited to, the following:

1. Inspection procedures.
2. Project Record Documents.
3. Project Record Photographs
4. Operation and maintenance manuals.
5. Warranties.
6. Instruction of the Owner's personnel.
7. Final cleaning.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise the Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by the Owner. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to the Owner. Advise the Owner's personnel of changeover in security provisions.
8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise the Owner of changeover in heat and other utilities.
12. Submit changeover information related to the Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

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

1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
 - 1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 - 2. Submit certified copy of the Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by the Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Instruct the Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, the Architect will either proceed with inspection or notify the Contractor of unfulfilled requirements. The Architect will prepare a final Certificate for Payment after inspection or will notify the Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by the Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.

e. Page number.

1.6 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for the Architect’s reference during normal working hours.
- B. Record Drawings:
1. Maintain and submit two sets of blue- or black-line white prints of Contract Drawings and Shop Drawings and submit digital scanned copies of all the Record Drawings; format to be .JPG or .TIF.
 2. The Contractor shall be responsible for updating the bid documents (CAD, drawings and specifications) with the as-built changes. All changes shall be included and tagged as “as-built” revisions. The drawings shall also have a new “as-built” date.
 3. Deliverables: One review set of bond prints, two final sets, (one in bond and one in set on CD-ROM in portable document format - pdf).
 4. Drawings that replace the original bid drawings shall be cross-referenced to the original bid drawing files.
 5. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
 6. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 7. Mark important additional information that was either shown schematically or omitted from original Drawings.
 8. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 9. Identify and date each Record Drawing; include the designation “PROJECT RECORD DRAWING” in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project’s Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Note related Change Orders, Record Drawings, and Product Data, where applicable.

D. Record Photographs

1. Digital Images: Submit a complete set of digital image electronic files as a Project Record Document on CD-ROM. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, uncropped.
2. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.
3. Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - a. Date and Time: Include date and time in filename for each image.
 - b. Field Office Images: Maintain one set of images on CD-ROM in the field office at Project site, available at all times for reference. Identify images same as for those submitted to Architect

E. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Drawings, and Record Specifications, where applicable.

F. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1.7 OPERATION AND MAINTENANCE MANUALS

A. Assemble complete sets of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:

1. Operation Data:
 - a. Emergency instructions and procedures.
 - b. System, subsystem, and equipment descriptions, including operating standards.
 - c. Operating procedures, including startup, shutdown, seasonal, and weekend operations.
 - d. Description of controls and sequence of operations.
 - e. Piping diagrams.
2. Maintenance Data:
 - a. Manufacturer's information, including list of spare parts.
 - b. Name, address, and telephone number of Installer or supplier.
 - c. Maintenance procedures.

- d. Maintenance and service schedules for preventive and routine maintenance.
- e. Maintenance record forms.
- f. Sources of spare parts and maintenance materials.
- g. Copies of maintenance service agreements.
- h. Copies of warranties and bonds.

- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.8 WARRANTIES

- A. Submittal Time: Submit written warranties on request of the Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by the Owner during construction period by separate agreement with the Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 1. Bind warranties and bonds in heavy duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.
 2. Provide heavy paper binders with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of the Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct the Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
1. Provide instructors experienced in operation and maintenance procedures.
 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 3. Schedule training with the Owner, through the Architect with at least seven day advance notice.
 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
1. System design and operational philosophy.
 2. Review of documentation.
 3. Operations.
 4. Adjustments.
 5. Troubleshooting.
 6. Maintenance.
 7. Repair.

3.2 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural

- weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over “UL” and similar labels, including mechanical and electrical nameplates.
 - m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to unusual operating conditions.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - s. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner’s property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Salvage of existing items to be reused or recycled.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and **deliver to Owner ready for reuse.**
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at **Project site: 713 East Basin Rd, New Castle DE 19720.**

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, **for environmental protection, for dust control and for noise control**. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's **building manager's and other tenants** on-site operations are uninterrupted.
 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Use of elevator and stairs.
 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed work.
- C. Predemolition Photographs or Video: Show existing conditions, including finish surfaces, which might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.
 1. Predemolition Photographs: Provide unaltered digital photographs to accurately record physical conditions prior to start of demolition. Identify date, time and location of each image in file name.
 2. Predemolition Video: Provide video recordings to accurately record physical conditions prior to start of demolition. Describe scenes in video recording by audio narration identifying date, time and location.
- D. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- E. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 - 1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 - 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

1.10 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Notify warrantor before proceeding.
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

1.11 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

3.2 PREPARATION

- A. Refrigerant: Before starting demolition remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.

- d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
- e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 9. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area **designated by Owner**.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition **and cleaned** and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least **3/4 inch** at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
- B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.

- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.
- E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings."

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units.

1.2 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).
- B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For reinforcing steel. Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315.
- C. Samples for Verification: For each type and color of exposed masonry unit and colored mortar.

1.4 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For each type and size of product. For masonry units, include data on material properties, material test reports substantiating compliance with requirements.
- B. Mix Design: For each type of mortar and grout. Include description of type and proportions of ingredients.
 1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91/C 91M for air content.
 2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

1.5 QUALITY ASSURANCE

- A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

- B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work and will be within 20 feet vertically and horizontally of a walking surface.
- C. Fire-Resistance Ratings: Comply with requirements for fire resistance-rated assembly designs indicated.
 - 1. Where fire-resistance-rated construction is indicated, units shall be listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.

2.2 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
 - 1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
- B. CMUs: ASTM C 90.
 - 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi.
 - 2. Size (width): Manufactured to dimensions 3/8 inch less than nominal dimensions.
 - 3. Density Classification: Lightweight.
 - 4. Exposed Faces: Provide fine texture units suitable for painting.

2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

- D. Masonry Cement: ASTM C 91/C 91M.
- E. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979/C 979M. Use only pigments with a record of satisfactory performance in masonry mortar.
- F. Aggregate for Mortar: ASTM C 144.
 - 1. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
 - 2. White-Mortar Aggregates: Natural white sand or crushed white stone.
 - 3. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- G. Aggregate for Grout: ASTM C 404.
- H. Epoxy Pointing Mortar: ASTM C 395, epoxy-resin-based material formulated for use as pointing mortar for glazed or pre-faced masonry units (and approved for such use by manufacturer of units); in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's colors.
- I. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
- J. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs containing integral water repellent from same manufacturer.
- K. Water: Potable.

2.4 REINFORCEMENT

- A. Uncoated-Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60
- B. Masonry-Joint Reinforcement, General: ASTM A 951/A 951M.
 - 1. Interior Walls: Hot-dip galvanized carbon steel.
 - 2. Exterior Walls: Hot-dip galvanized carbon steel.
 - 3. Wire Size for Side Rods: 0.148-inch diameter.
 - 4. Wire Size for Cross Rods: 0.148-inch diameter.
 - 5. Wire Size for Veneer Ties: 0.148-inch diameter.
 - 6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.
 - 7. Provide in lengths of not less than 10 feet, with prefabricated corner and tee units.
- C. Masonry-Joint Reinforcement for Single-Wythe Masonry: Ladder or truss type with single pair of side rods.

2.5 TIES AND ANCHORS

- A. General: Ties and anchors shall extend at least 1-1/2 inches into veneer but with at least a 5/8-inch cover on outside face.
- B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M, with ASTM A 153/A 153M, Class B-2 coating.
 2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
 3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches wide.
1. Wire: Fabricate from 3/16-inch diameter, hot-dip galvanized-steel wire.
- D. Adjustable Anchors for Connecting to Structural Steel Framing: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
1. Anchor Section for Welding to Steel Frame: Crimped 1/4-inch diameter, hot-dip galvanized-steel wire.
 2. Tie Section: Triangular-shaped wire tie made from 0.187-inch diameter, hot-dip galvanized-steel wire.
- E. Adjustable Anchors for Connecting to Concrete: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.
1. Connector Section: Dovetail tabs for inserting into dovetail slots in concrete and attached to tie section; formed from 0.060-inch thick steel sheet, galvanized after fabrication.
 2. Tie Section: Triangular-shaped wire tie made from 0.187-inch diameter, hot-dip galvanized-steel wire.
 3. Corrugated-Metal Ties: Metal strips not less than 7/8 inch wide with corrugations having a wavelength of 0.3 to 0.5 inch and an amplitude of 0.06 to 0.10 inch made from 0.060-inch thick steel sheet, galvanized after fabrication with dovetail tabs for inserting into dovetail slots in concrete.
- F. Partition Top Anchors: 0.105-inch thick metal plate with a 3/8-inch diameter metal rod 6 inches long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication.
- G. Rigid Anchors: Fabricate from steel bars 1-1/2 inches wide by 1/4 inch thick by 24 inches long, with ends turned up 2 inches or with cross pins unless otherwise indicated.
1. Corrosion Protection: Hot-dip galvanized to comply with ASTM A 153/A 153M Epoxy coating 0.020 inch thick.

2.6 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Hohmann & Barnard, Inc.; NS Closed Cell Neoprene Sponge.
 - b. Wire-Bond; Expansion Joint 3300.
- B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Hohmann & Barnard, Inc.; RS Series Rubber Control Joint.
 - b. Wire-Bond; Rubber Control Joint.
- A. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D 226/D 226M, Type I (No. 15 asphalt felt).

2.7 MASONRY-CELL FILL

- A. Loose-Fill Insulation: Perlite complying with ASTM C 549, Type II (surface treated for water repellency and limited moisture absorption) or Type IV (surface treated for water repellency and to limit dust generation).
- B. Lightweight-Aggregate Fill: ASTM C 331/C 331M.

2.8 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Diedrich Technologies, Inc.
 - b. EaCo Chem, Inc.
 - c. ProSoCo, Inc.

2.9 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride in mortar or grout.
 - 2. Use portland cement-lime mortar unless otherwise indicated.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated.
 - 1. For interior non load-bearing partitions, Type O may be used instead of Type N.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- C. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested according to ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

3.2 TOLERANCES

A. Dimensions and Locations of Elements:

- 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch.
- 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch.
- 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet, or 1/2-inch maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet or 1/2-inch maximum.
3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2-inch maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
3. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch.

3.3 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.
- C. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- D. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- E. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.4 MORTAR BEDDING AND JOINTING

A. Lay CMUs as follows:

1. Bed face shells in mortar and make head joints of depth equal to bed joints.
2. Bed webs in mortar in all courses of piers, columns, and pilasters.
3. Bed webs in mortar in grouted masonry, including starting course on footings.
4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.

- B. Lay solid masonry units and hollow brick with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Rake out mortar joints at pre-faced CMUs to a uniform depth of 1/4 inch and point with epoxy mortar to comply with epoxy-mortar manufacturer's written instructions.
- D. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- E. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

3.5 MASONRY-CELL FILL

- A. Pour loose-fill insulation lightweight-aggregate fill into cavities to fill void spaces. Maintain inspection ports to show presence of fill at extremities of each pour area. Close the ports after filling has been confirmed. Limit the fall of fill to one story high, but not more than 20 feet.

3.6 MASONRY-JOINT REINFORCEMENT

- A. General: Install entire length of longitudinal steel rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.
 - 1. Space reinforcement not more than 16 inches o.c.
 - 2. Space reinforcement not more than 6 inches o.c. in foundation walls and parapet walls.
 - 3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings.
- B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.
- C. Provide continuity at wall intersections by using prefabricated T-shaped units.
- D. Provide continuity at corners by using prefabricated L-shaped units.

3.7 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

- A. Anchor masonry to structural steel and concrete, where masonry abuts or faces structural steel or concrete, to comply with the following:
 - 1. Provide an open space not less than 2 inches wide between masonry and structural steel or concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
 - 2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
 - 3. Space anchors as indicated, but not more than 16 inches o.c. vertically and 16 inches o.c. horizontally.

3.8 REINFORCED UNIT MASONRY INSTALLATION

- A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.
 - 1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
 - 2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and that of other loads that may be placed on them during construction.
- B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.
- C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
 - 1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
 - 2. Limit height of vertical grout pours to not more than 60 inches.

3.9 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.
- B. Inspections: Special inspections according to Level [B] [C] in TMS 402/ACI 530/ASCE 5.
 - 1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
 - 2. Place grout only after inspectors have verified compliance of grout spaces and of grades, size, and locations of reinforcement.
 - 3. Place grout only after inspectors have verified proportions of site-prepared grout.
- C. Testing Prior to Construction: One set of tests.
- D. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.
- E. Clay Masonry Unit Test: For each type of unit provided, according to ASTM C 67 for compressive strength.
- F. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C 140 for compressive strength.
- G. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.

- H. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar for mortar air content and compressive strength.
- I. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.

3.10 PARGING

- A. Parge exterior faces of below-grade masonry walls, where indicated, in two uniform coats to a total thickness of 3/4 inch. Dampen wall before applying first coat, and scarify first coat to ensure full bond to subsequent coat.
- B. Use a steel-trowel finish to produce a smooth, flat, dense surface with a maximum surface variation of 1/8 inch per foot. Form a wash at top of parging and a cove at bottom.
- C. Damp-cure parging for at least 24 hours and protect parging until cured.

3.11 REPAIRING, POINTING, AND CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes.
 - 3. Protect adjacent surfaces from contact with cleaner.
 - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
 - 5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
 - 6. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

3.12 MASONRY WASTE DISPOSAL

- A. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
 - 1. Do not dispose of masonry waste as fill within 18 inches of finished grade.
- B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042000

NOT FOR CONSTRUCTION

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Wood blocking and nailers.
3. Wood furring.
4. Plywood Backing Panels

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1. Wood-Preservative-Treated Lumber.
2. Preservative-Treated-Plywood.
3. Fire-Retardant-Treated Materials:
4. Miscellaneous lumber.
5. Plywood Backing Panels
6. Fasteners.

1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports. For the following, from ICC-ES:

1. Preservative-treated wood.
2. Fire-retardant-treated wood.
3. Power-driven fasteners.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, **mark grade stamp on end or back of each piece.**
3. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: **19 percent** unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWWA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.

C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

D. Application: Treat **items indicated on Drawings, and the following:**

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, [furring,] [stripping,] and similar concealed members in contact with masonry or concrete.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than **18 inches** above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than **10.5 feet** beyond the centerline of the burners at any time during the test.

1. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

- C. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- D. Application: **Treat items indicated on Drawings, and the following:**
 - 1. Concealed blocking.
 - 2. Plywood backing panels.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Furring.
- B. For items of dimension lumber size, provide Construction No. 2 grade lumber and any of the following species:
 - 1. Hem-fir (north); NLGA.
 - 2. Mixed southern pine or southern pine; SPIB.
 - 3. Spruce-pine-fir; NLGA.
 - 4. Hem-fir; WCLIB or WWPA.
 - 5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
- C. Concealed Boards: **19** percent maximum moisture content of **any of the following** species and grades:
 - 1. Mixed southern pine or southern pine; No. 3 grade; SPIB.
 - 2. Hem-fir or hem-fir (north); Standard or No. 3 Common grade; NLGA, WCLIB, or WWPA.
 - 3. Spruce-pine-fir (south) or spruce-pine-fir; Standard or No. 3 Common grade; NeLMA, NLGA, WCLIB or WWPA.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.5 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: Plywood, DOC PS 1, **Exposure 1, C-D Plugged and fire-retardant treated**, in thickness indicated or, if not indicated, not less than **3/4-inch** nominal thickness.

2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners **with hot-dip zinc coating complying with ASTM A 153/A 153M –or- of Type 304 stainless steel.**
 - B. Screws for Fastening to Metal Framing: **ASTM C 1002 and ASTM C 954**, length as recommended by screw manufacturer for material being fastened.
 - C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- 2.7 MISCELLANEOUS MATERIALS
- A. Adhesives for Gluing **Furring** to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.
 1. Adhesives shall have a VOC content of **70 g/L** or less.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD-1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate **furring**, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.
- D. Do not splice structural members between supports unless otherwise indicated.
- E. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 2. ICC-ES evaluation report for fastener.

3.2 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

NOT FOR CONSTRUCTION

SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Penetrations in fire-resistance-rated walls.
2. Penetrations in horizontal assemblies.
3. Penetrations in smoke barriers.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at **Project site**.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: For each penetration firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing and inspecting agency.
- C. Product test reports.

1.4 CLOSEOUT SUBMITTALS

- A. Installer Certificates: From Installer indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics:

1. Perform penetration firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.
2. Test per testing standards referenced in "Penetration Firestopping Systems" Article. Provide rated systems complying with the following requirements:
 - a. Penetration firestopping systems shall bear classification marking of a qualified testing agency.
 - 1) UL in its "Fire Resistance Directory."

2.2 PENETRATION FIRESTOPPING SYSTEMS

- A. Penetration Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. A/D Fire Protection Systems Inc.
 - b. Grace Construction Products.
 - c. Hilti, Inc.
 - d. Johns Manville.
 - e. NUCO Inc.
 - f. RectorSeal Corporation.
 - g. Specified Technologies Inc.
 - h. 3M Fire Protection Products.
 - i. Tremco, Inc. / Tremco Fire Protection Systems Group.
- B. Penetrations in Fire-Resistance-Rated Walls: Penetration firestopping systems with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
1. F-Rating: Not less than the fire-resistance rating of constructions penetrated.
- C. Penetrations in Horizontal Assemblies: Penetration firestopping systems with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
1. F-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated.
 2. T-Rating: At least one hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.
 3. W-Rating: Provide penetration firestopping systems showing no evidence of water leakage when tested according to UL 1479.
- D. Penetrations in Smoke Barriers: Penetration firestopping systems with ratings determined per UL 1479, based on testing at a positive pressure differential of 0.30-inch wg.

1. L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at and no more than 50-cfm cumulative total for any 100 sq. ft. at both ambient and elevated temperatures.
- E. Exposed Penetration Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, per ASTM E 84.
- F. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. General: Install penetration firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications.
- C. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings.
 1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.
- D. Install fill materials by proven techniques to produce the following results:
 1. Fill voids and cavities formed by openings, forming materials, accessories and penetrating items to achieve required fire-resistance ratings.
 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
 3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.2 IDENTIFICATION

- A. Wall Identification: Permanently label walls containing penetration firestopping systems with the words "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS," using lettering not less than 3 inches high and with minimum 0.375-inch strokes.
 1. Locate in accessible concealed floor, floor-ceiling, or attic space at 15 feet from end of wall and at intervals not exceeding 30 feet.

B. Penetration Identification: Identify each penetration firestopping system with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of penetration firestopping system edge so labels are visible to anyone seeking to remove penetrating items or firestopping systems. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
2. Contractor's name, address, and phone number.
3. Designation of applicable testing and inspecting agency.
4. Date of installation.
5. Manufacturer's name.
6. Installer's name.

3.3 FIELD QUALITY CONTROL

- A. Owner will engage a qualified testing agency to perform tests and inspections according to ASTM E 2174.
- B. Where deficiencies are found or penetration firestopping system is damaged or removed because of testing, repair or replace penetration firestopping system to comply with requirements.
- C. Proceed with enclosing penetration firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

END OF SECTION 078413

SECTION 078443 - JOINT FIRESTOPPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Joints in or between fire-resistance-rated constructions.
2. Joints in smoke barriers.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Product Schedule: For each joint firestopping system. Include location, illustration of firestopping system, and design designation of qualified testing agency.

1.4 INFORMATIONAL SUBMITTALS

- A. Product test reports.

1.5 CLOSEOUT SUBMITTALS

- A. Installer Certificates: From Installer indicating that joint firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with UL's "Qualified Firestop Contractor Program Requirements."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics:

1. Perform joint firestopping system tests by a qualified testing agency acceptable to authorities having jurisdiction.
2. Test per testing standards referenced in "Joint Firestopping Systems" Article. Provide rated systems complying with the following requirements:
 - a. Joint firestopping systems shall bear classification marking of a qualified testing agency.
 - 1) UL in its "Fire Resistance Directory."

2.2 JOINT FIRESTOPPING SYSTEMS

- A. Joint Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of assemblies in or between which joint firestopping systems are installed. Joint firestopping systems shall accommodate building movements without impairing their ability to resist the passage of fire and hot gases.
- B. Joints in or between Fire-Resistance-Rated Construction: Provide joint firestopping systems with ratings determined per ASTM E 1966 or UL 2079.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. A/D Fire Protection System, Inc.
- b. Fire Trak Corp.
- c. Grace Construction Products.
- d. Hilti, Inc.
- e. Johns Manville.
- f. Nelson Firestop Products.
- g. NUCO Inc.
- h. Passive Fire Protection Partners.
- i. RedorSeal Corporation.
- j. Specified Technologies Inc.
- k. TM Fire Protection Products.
- l. Tremco, Inc.; Tremco Fire Protection Systems Group.

2. USG Corporation. Fire-Resistance Rating: Equal to or exceeding the fire-resistance rating of the wall, floor, or roof in or between which it is installed.

3. Joints in Smoke Barriers: Provide fire-resistive joint systems with ratings determined per UL 2079 based on testing at a positive pressure differential of 0.30-inch wg.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Grace Construction Products.

- b. Hilti, Inc.
 - c. Johns Manville.
 - d. Nelson Firestop Products.
 - e. NUCO Inc.
 - f. Passive Fire Protection Partners.
 - g. Specified Technologies Inc.
 - h. 3M Fire Protection Products.
 - i. Tremco, Inc.; Tremco Fire Protection Systems Group.
2. L-Rating: Not exceeding 5.0 cfm/ft. of joint at both ambient and elevated temperatures.
- D. Exposed Joint Firestopping Systems: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.
- E. Accessories: Provide components of fire-resistive joint systems, including primers and forming materials, that are needed to install elastomeric fill materials and to maintain ratings required. Use only components specified by joint firestopping system manufacturer and approved by the qualified testing agency for conditions indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Examine substrates and conditions, with instances present, for compliance with requirements for joint configurations, substrates, and other conditions affecting performance of the Work.
- B. General: Install fire-resistive joint systems to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.
- C. Install forming materials and other accessories of types required to support elastomeric fill materials during their application and in position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
 1. After installing elastomeric fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of fire-resistive joint system.
- D. Install elastomeric fill materials for fire-resistive joint systems by proven techniques to produce the following results:
 1. Elastomeric fill voids and cavities formed by joints and forming materials as required to achieve fire-resistance ratings indicated.
 2. Apply elastomeric fill materials so they contact and adhere to substrates formed by joints.
 3. For elastomeric fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.2 IDENTIFICATION

- A. Joint Identification: Identify joint firestopping systems with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of joint edge so labels are visible to anyone seeking to remove or joint firestopping system. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:
1. The words "Warning - Joint Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
 2. Contractor's name, address, and phone number.
 3. Designation of applicable testing agency.
 4. Date of installation.
 5. Manufacturer's name.
 6. Installer's name.

3.3 FIELD QUALITY CONTROL

- A. Inspecting Agency: Owner will engage a qualified testing agency to perform tests and inspections according to ASTM E 2393.
- B. Where deficiencies are found or joint firestopping systems are damaged or removed due to testing, repair or replace joint firestopping systems so they comply with requirements.
- C. Proceed with enclosing joint firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

END OF SECTION 078443

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Urethane joint sealants.
3. Mildew-resistant joint sealants.
4. Latex joint sealants.
5. Preformed joint sealants.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples: For each kind and color of joint sealant required.
- C. Joint-Sealant Schedule: Include the following information:
1. Joint-sealant application, joint location, and designation.
 2. Joint-sealant manufacturer and product name.
 3. Joint-sealant formulation.
 4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Preconstruction laboratory test reports.
- C. Preconstruction field-adhesion-test reports.
- D. Field-adhesion-test reports.
- E. Sample warranties.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

1.6 PRECONSTRUCTION TESTING

- A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
 - 1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 - 2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
 - 3. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with **masonry** substrates.
- B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates. Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.

1.7 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: **Two** years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: **Five** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Colors of Exposed Joint Sealants: **As selected by Architect from manufacturer's full range.**

2.2 SILICONE JOINT SEALANTS

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dow Corning Corporation; 790.
 - b. GE Advanced Materials - Silicones; SilPruf LM SCS2700.
 - c. Pecora Corporation; 890.
 - d. Tremco Incorporated; Spectrem 1.

2.3 URETHANE JOINT SEALANTS

- A. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic NP1.
 - b. Pecora Corporation; Dynatrol I-XL.
 - c. Sika Corporation, Construction Products Division; Sikaflex - 1a.
 - d. Tremco Incorporated; Dymonic.
- B. Single-Component, Pourable, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade P, Class 25, for Use T.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic SL 1.
 - b. Bostik, Inc.; Chem-Cal 950.
 - c. Pecora Corporation; Urexpam NR-201.
 - d. Tremco Incorporated; Vulkem 45.

2.4 MILDEW-RESISTANT JOINT SEALANTS

- A. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Omnipus.
 - b. Dow Corning Corporation; 786 Mildew Resistant.
 - c. GE Advanced Materials - Silicones; Sanitary SCS1700.

2.5 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolac.
 - b. Bostik, Inc.; Chem-Calk 600.
 - c. Pecora Corporation; AC-20+.
 - d. Tremco Incorporated; Tremflex 834.

2.6 PREFORMED JOINT SEALANTS

- A. **Preformed Foam Joint Sealant**: Manufacturer's standard preformed, precompressed, open-cell foam sealant manufactured from urethane foam with minimum density of ~~10 lb/cu. ft.~~ and impregnated with a nondrying, water-repellent agent. Factory produce in precompressed sizes in roll or stick form to fit joint widths indicated; coated on one side with a pressure-sensitive adhesive and covered with protective wrapping.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dayton Superior Specialty Chemicals; Polytra Standard.
 - b. EMSEAL Joint Systems, Ltd.; Emseal 257.
 - c. Sandell Manufacturing Co., Inc.; Polyseal.

2.7 MISCELLANEOUS MATERIALS

- A. **Primer**: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. **Cleaners for Nonporous Surfaces**: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. **Masking Tape**: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

2.8 JOINT-SEALANT BACKING

- A. **Cylindrical Sealant Backings**: ASTM C 1330, **Type C (closed-cell material with a surface skin or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated)**, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. **Bond-Breaker Tape**: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealant. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.
 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- G. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping. Do not pull or stretch material. Produce seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures, apply heat to sealant in compliance with sealant manufacturer's written instructions.
- 3.4 CLEANING
- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.
- 3.5 PROTECTION
- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Interior joints up to 1 inch wide in horizontal traffic surfaces.
1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 - b. Control and expansion joints in tile flooring.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: Single component, pourable, traffic grade, urethane joint sealant.
 3. Joint-Sealant Color: **As selected by Architect from manufacturer's full range of colors.**
- B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Other joints as indicated on Drawings.
 2. Joint Sealant: Single component, nonsag, neutral curing, silicone joint sealant.
 3. Joint-Sealant Color: **As selected by Architect from manufacturer's full range of colors.**
- C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.
1. Joint Locations:
 - a. Control joints on exposed interior surfaces of exterior walls.
 - b. Vertical joints on exposed surfaces of **unit masonry, concrete, walls and partition.**
 - c. Perimeter joints between interior wall surfaces and frames of **interior doors, and windows.**
 - d. Other joints as indicated on Drawings.
 2. Joint Sealant: **Latex.**
 3. Joint-Sealant Color: **As selected by Architect from manufacturer's full range of colors.**
- D. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: Mildew-resistant, single component, acid curing silicone joint sealant..

3. Joint-Sealant Color: **As selected by Architect from manufacturer's full range of colors.**
- E. Joint-Sealant Application: Concealed mastics.
1. Joint Locations:
 - a. Aluminum thresholds.
 - b. Sill plates.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: **Butyl-rubber based.**
 3. Joint-Sealant Color: **As selected by Architect from manufacturer's full range of colors.**

END OF SECTION 079200

NOT FOR CONSTRUCTION

SECTION 079219 - ACOUSTICAL JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes acoustical joint sealants.

1.2 ACTION SUBMITTALS

- A. Product Data: For each acoustical joint sealant.
- B. Samples: For each kind and color of acoustical joint sealant required.
- C. Acoustical-Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Sample warranties.

1.4 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace acoustical joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: **Two** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Provide acoustical joint-sealant products that effectively reduce airborne sound transmission through perimeter joints and openings in building construction, as demonstrated by testing representative assemblies according to ASTM E 90.

2.2 ACOUSTICAL JOINT SEALANTS

- A. Acoustical Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex acoustical sealant complying with ASTM C 834.
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Acoustical Sealant for Exposed and Concealed Joints:
 - a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.
 - b. USG Corporation; SHEETROCK Acoustical Sealant.
 - 2. Colors of Exposed Acoustical Joint Sealants: **As selected by Architect from manufacturer's full range of colors.**
- C. Primer: Material recommended by acoustical-joint-sealant manufacturer where required for adhesion of sealant to joint substrates.
- D. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- E. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing acoustical joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates where recommended by acoustical-joint-sealant manufacturer.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF ACOUSTICAL JOINT SEALANTS

- A. Comply with acoustical joint-sealant manufacturer's written installation instructions unless more stringent requirements apply.
- B. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical joint sealant. Install acoustical joint sealants at both faces of partitions, at perimeters, and through penetrations. Comply with ASTM C 919, ASTM C 1193, and manufacturer's written recommendations for closing off sound-flanking paths around or through assemblies, including sealing partitions to underside of floor slabs above acoustical ceilings.

- C. Acoustical Ceiling Areas: Apply acoustical joint sealant at perimeter edge moldings of acoustical ceiling areas in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.

END OF SECTION 079219

NOT FOR CONSTRUCTION

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes:

- 1. Interior hollow metal doors and frames.

- B. Related Requirements:

- 1. Section 087100 "Door Hardware for door hardware for hollow-metal doors.

1.3 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.
 - 2. Interior doors and frames.
 - 3. Jamb anchors.
 - 4. Floor anchors.
 - 5. Louvers.
 - 6. Grout guards.

- B. Shop Drawings: Include the following:

1. Elevations of each door type.
2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition.
6. Details of anchorages, joints, field splices, and connections.
7. Details of accessories.
8. Details of moldings, removable stops, and glazing.
9. Details of conduit and preparations for power, signal, and control systems.

C. Samples for Verification:

1. For each type of exposed finish required, prepared on Samples of not less than 3 by 5 inches.
2. For "Doors" and "Frames" subparagraphs below, prepare Samples approximately 12 by 12 inches to demonstrate compliance with requirements for quality of materials and construction:
 - a. Doors: Show vertical-edge, top, and bottom construction; core construction; and hinge and other applied hardware reinforcement. Include separate section showing glazing if applicable.
 - b. Frames: Show profile, corner joint, floor and wall anchors, and silencers. Include separate section showing fixed hollow metal panels and glazing if applicable.

D. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.7 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.
- B. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
 1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
- B. Warranty includes installation and finishing that may be required due to repair or replacement of defective doors.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Ceco Door Products; an Assa Abloy Group company.
 - 2. Curries Company; an Assa Abloy Group company.
 - 3. Pioneer Industries, Inc.
 - 4. Steelcraft; an Ingersoll-Rand company.
- B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 REGULATORY REQUIREMENTS

- A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
 - 1. Smoke and Draft Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
- B. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.3 INTERIOR DOORS AND FRAMES

- A. Construct interior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Commercial Doors and Frames: NAAMM-HMMA 861.
 - 1. Physical Performance: Level A according to SDI A250.4.
 - 2. Doors:

- a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches.
 - c. Face: Uncoated, cold-rolled steel sheet, minimum thickness of 0.042 inch, except metallic-coated, cold rolled steel sheet, minimum thickness of 0.053 inch at corrosive environments.
 - d. Edge Construction: Continuous welded with no visible seam.
 - e. Core: Vertical steel stiffener.
 - f. Fire-Rated Core: Manufacturer's standard **vertical steel stiffener** core for fire-rated **and temperature-rise-rated** doors.
3. Frames:
- a. Materials: Metallic-coated, steel sheet, minimum thickness of 0.053 inch with minimum G60A60 coating.
 - b. Construction: Full profile welded.
4. Exposed Finish: Prime.

2.4 BORROWED LITES

- A. Fabricate of **uncoated** steel sheet, minimum thickness of **0.053 inch**.
- B. Construction: **Full profile welded**.
- C. Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as metal as frames.
- D. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.

2.5 FRAME ANCHORS

- A. Jamb Anchors:
 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
 2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
 3. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch-diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.
- B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch, and as follows:
 1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at finish floor surface.

2.6 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 0-Z coating designation; mill phosphatized.
 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.
- G. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.
- H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- I. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.7 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Doors:

1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch, steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches apart. Spot weld to face sheets no more than 5 inches o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
 2. Fire Door Cores: As required to provide fire-protection and temperature-rise ratings indicated.
 3. Vertical Edges for Single-Acting Doors: Bevel edges 1/8 inch in 2 inches.
 4. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets.
 5. Bottom Edge Closures: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets.
 6. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
 7. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.
- C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 2. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
 3. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
 4. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Masonry Type: Locate anchors not more than 16 inches from top and bottom of frame. Space anchors not more than 32 inches o.c., to match coursing, and as follows:
 - 1) Two anchors per jamb up to 60 inches high.
 - 2) Three anchors per jamb from 60 to 90 inches high.
 - 3) Four anchors per jamb from 90 to 120 inches high.
 - 4) Four anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.
 - b. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
 - 1) Three anchors per jamb up to 60 inches high.
 - 2) Four anchors per jamb from 60 to 90 inches high.
 - 3) Five anchors per jamb from 90 to 96 inches high.
 - 4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.

- c. Compression Type: Not less than two anchors in each frame.
 - d. Postinstalled Expansion Type: Locate anchors not more than 6 inches from top and bottom of frame. Space anchors not more than 26 inches o.c.
 - 5. Head Anchors: Two anchors per head for frames more than 42 inches wide and mounted in metal-stud partitions.
 - 6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
 - D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.
 - E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
 - 1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
 - 2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.
 - F. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with mitered hairline joints.
 - 1. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
 - 2. Provide loose stops and moldings on inside of hollow-metal work.
 - 3. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
- 2.8 STEEL FINISHES
- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
 - 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.
- 2.9 ACCESSORIES
- A. Louvers: Provide louvers for interior doors, where indicated on drawings. Refer to specifications section 081416 for Louver specification.
 - B. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
- B. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
 - 1. Set frames accurately in position; plumb, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-rated openings, install frames according to NFPA 80.
 - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Install frames with removable stops located on secure side of opening.
 - d. Install door silencers in frames before grouting.
 - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.

- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.
- E. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.
- F. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

NOT FOR CONSTRUCTION

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Solid-core doors with wood-veneer faces.
2. Factory finishing flush wood doors.
3. Factory fitting flush wood doors to frames and factory machining for hardware.
4. Light frames and glazing installed in wood doors.

B. Related Requirements:

1. Section 088000 "Glazing" for glass view panels in flush wood doors.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of door. Include details of core and edge construction, louvers, and trim for openings. Include factory-finishing specifications.

1. Veneered-faced doors for transparent finish.
2. Wood beads for light openings in wood doors.

- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and the following:

1. Dimensions and locations of blocking.
2. Dimensions and locations of mortises and holes for hardware.
3. Dimensions and locations of cutouts.
4. Undercuts.
5. Requirements for veneer matching.
6. Doors to be factory finished and finish requirements.
7. Fire-protection ratings for fire-rated doors

- C. Samples for Initial Selection: For plastic-laminate door faces and factory-finished doors.

D. Samples for Verification:

1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish.
2. Frames for light openings, 6 inches long, for each material, type, and finish required.
3. Glass Samples: for each type of glass product, 12 inches square.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For special warranty.
- B. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. Source Limitations: Obtain flush wood doors from single manufacturer.
- C. Quality Standard: In addition to requirements specified, comply with WDMA I.S.1-A, "Architectural Wood Flush Doors."

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags or cardboard cartons.
- C. Mark each door on bottom rail with opening number used on Shop Drawings.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weather tight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during remainder of construction period.

1.9 WARRANTY

- A. A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.

- b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. **Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Algoma Hardwoods, Inc.
 2. Eggers Industries.
 3. Marshfield Door Systems, Inc.
 4. Oshkosh Architectural Door Company.
 5. VT Industries Inc.
- B. **Source Limitations:** Obtain flush wood doors indicated to be blueprint matched with paneling and wood paneling from single manufacturer.

2.2 FLUSH WOOD DOORS, GENERAL

- A. **Quality Standard:** In addition to requirements specified, comply with AWI's, AWMAC's, and WI's "Architectural Woodwork Standards."
 1. Provide AWI Quality Certification Labels indicating that doors comply with requirements of grades specified.
 2. Contract Documents contain selections chosen from options in quality standard and additional requirements beyond those of quality standard. Comply with those selections and requirements in addition to quality standard.
- B. **WDM A I.S.1-A Performance Grade:** Extra Heavy Duty; Aesthetic Grade: Premium.
- A. **Fire-Rated Wood Doors:** Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to **NFPA 252 or UL 10C.**
 1. **Oversize Fire-Rated Door Assemblies:** For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
 2. **Temperature-Rise Limit:** **At vertical exit enclosures and exit passageways,** provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.

3. Cores: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
4. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.
5. Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.
6. Pairs: Provide formed-steel edges and astragals with intumescent seals.
 - a. Finish steel edges and astragals with baked enamel **same color as doors**.
 - b. Finish steel edges and astragals to match door hardware (locksets or exit devices).

B. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control, based on testing according to UL 1784.

C. Structural-Composite-Lumber-Core Doors:

1. Structural Composite Lumber: WDMA I.S.10.
 - a. Screw Withdrawal, Face: 700 lbf.
 - b. Screw Withdrawal, Edge: 400 lbf.

2.3 VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Solid-Core Doors:

1. Grade: Premium, with Grade A faces.
2. Species: Select white birch.
3. Cut: Plain sliced (flat sliced).
4. Match between Veneer Leaves: Book match.
5. Assembly of Veneer Leaves on Door Faces: Running match.
6. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
7. Exposed Vertical and Top Edges: Same species as faces.
8. Core: Structural composite lumber.
9. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering.
10. At doors over 40% of the face cut-out for lights and or louvers, furnish engineered composite lumber core

2.4 LIGHT FRAMES AND LOUVERS

A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.

1. Wood Species: Same species as door faces.
2. Profile: Lipped beads, overlapping door face veneer.
3. At wood-core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips approved for such use.

- B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire-protection rating indicated. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.
- C. Metal Frames for Light Openings in Fire-Rated Doors: Manufacturer's standard frame formed of **0.048-inch** thick, cold-rolled steel sheet; **factory primed for paintfinish**; and approved for use in doors of fire-protection rating indicated.

D. Glazing: Type GL-01: Ultraclear fully tempered float glass.

1. Products:

- a. AGC Glass Company North America, Inc.; Krystal Klear
- b. Guardian Industries Corp.; Ultrawhite
- c. Pilkington North America Inc.; Optiwhite
- d. PPG Industries, Inc.; Starphire
- e. Saint-Gobain Corporation; Diamant

2. Minimum Thickness: 6 mm.

3. Safety glazing required.

2.5 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.
 - 1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
 - 2. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.
- C. Openings: Factory cut and trim openings through doors.
 - 1. Light Openings: Trim openings with moldings of material and profile indicated.
 - 2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 088000 "Glazing."
 - 3. Louvers: Factory install louvers in prepared openings.

2.6 FACTORY FINISHING

- A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.

1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- A. Transparent Finish: Provide a clear protective coating over the wood veneer allowing the natural color and grain of the selected wood species to provide the appearance specified. Stain is applied to the wood surface underneath the transparent finish to add color and design flexibility.
 1. Finish: Meet or exceed WDMA I.S. 1A TR8 UV Cured Acrylated Polyester finish performance requirements.
 2. Staining:
 - a. As selected by Architect from manufacturer's full range.
 - b. Custom stain to match architect's sample.
 3. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and installed door frames, with Installer present, before hanging doors.
 1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

3.2 INSTALLATION

- A. Hardware: For installation, see Section 087100 "Door Hardware."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
 1. Install fire-rated doors according to NFPA 80.
 2. Install smoke- and draft-control doors according to NFPA 105.
- C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
 1. Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.
 - a. Bevel non-fire-rated doors 1/8 inch in 2 inches at lock and hinge edges.

2. Bevel fire-rated doors **1/8 inch in 2 inches** at lock edge; trim stiles and rails only to extent permitted by labeling agency.

D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

NOT FOR CONSTRUCTION

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Non-load-bearing steel framing systems for interior partitions.
2. Suspension systems for interior ceilings and soffits.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1. Studs and runners.
2. Flat strap and backing plate.
3. Cold-rolled channel bridging.
4. Hat-shaped, rigid furring channels.
5. Resilient furring channels.
6. Cold-rolled furring channels.
7. Z-shaped furring.
8. Tie wire.
9. Carrying channels.
10. Furring channels (furring members).
11. Fasteners for metal framing.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of code-compliance certification for studs and tracks.

- B. Evaluation Reports: For embossed steel studs and tracks, firestop tracks, post-installed anchors and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

1.5 QUALITY ASSURANCE

- A. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud

Association, the Steel Framing Industry Association, or the Steel Stud Manufacturers Association.

B. Pre-installation Conference: Conduct conference at Project site.

C. Installer Qualifications:

1. At least 10 completed projects of similar size and scope.
2. Installation to meet ASTM C754.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- C. Horizontal Deflection: For wall assemblies, limited to **1/360** of the wall height based on horizontal loading of **5 lbf/sq. ft.**

2.2 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 2. Protective Coating: ASTM A 653/A 653M, G40, hot-dip galvanized unless otherwise indicated.
- B. Studs and Runners: ASTM C 645.
1. Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: 0.03299 inch. (20 Gauge).
 - b. Depth: As indicated on Drawings.
- C. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with straight flanges and as follows:
1. Minimum Base-Metal Thickness: 0.03299 inch. (20 Gauge).
 2. Minimum Flange Width: 1-1/4 inches.
- D. Steel Box or Back-to-Back Headers: Manufacturer's standard C-shapes used to form header beams, of web depths indicated, punched, with stiffened flanges and as follows:

1. Minimum Base-Metal Thickness: 0.03299 inch. (20 Gauge).
- E. Deflection Track: ASTM C 645.
1. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above.
 - a. Minimum Base-Metal Thickness: 0.033 inch.
 - b. Minimum Track Leg Length: 2 inches.
- F. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
1. Minimum Base-Metal Thickness: 0.053 inch.
- G. Cold-Rolled Channel Bridging: Steel, 0.0538-inch minimum base-metal thickness, with minimum 1/2-inch wide flanges.
1. Depth: 1-1/2 inches.
 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.063 inch thick, galvanized steel.
- H. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base-Metal Thickness: 0.03299 inch. (20 Gauge).
 2. Depth: 7/8 inch.
- I. Cold-Rolled Furring Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges.
1. Depth: As indicated on Drawings.
 2. Furring Brackets: Adjustable, corrugated-edge-type steel sheet with minimum uncoated-steel thickness of 0.03299 inch. (20 Gauge).
 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch diameter wire, or double strand of 0.048-inch diameter wire.
- 2.3 AUXILIARY MATERIALS
- A. General: Provide auxiliary materials that comply with referenced installation standards.
1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates. Including but not limited to the following:
 - a. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.
 - b. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with allowable load capacities calculated according to ICC-ES AC70, greater than or equal to the design load, as determined by testing per ASTM E 1190 conducted by a qualified testing agency.
- B. Isolation Strip at Exterior Walls: Provide one of the following:

1. Asphalt-Saturated Organic Felt: ASTM D 226/D 226M, Type I (No. 15 asphalt felt), nonperforated.
2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Coordination with Sprayed Fire-Resistive Materials:
 1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling tracks to surfaces indicated to receive sprayed fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches o.c.
 2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of non-load-bearing steel framing. Do not reduce thickness of fire-resistive materials below that are required for fire-resistance ratings indicated. Protect adjacent fire-resistive materials from damage.

3.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
 1. Gypsum Plaster Assemblies: Also comply with requirements in ASTM C 841 that apply to framing installation.
 2. Portland Cement Plaster Assemblies: Also comply with requirements in ASTM C 1063 that apply to framing installation.
 3. Gypsum Veneer Plaster Assemblies: Also comply with requirements in ASTM C 844 that apply to framing installation.
 4. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.

- C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- D. Install bracing at terminations in assemblies.
- E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Single-Layer Application: 16 inches o.c. unless otherwise indicated.
 - 2. Multilayer Application: 16 inches o.c. unless otherwise indicated.
 - 3. Tile Backing Panels: 16 inches o.c. unless otherwise indicated.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.
 - 1. Deflection Track: Where framing extends to overhead structural supports, install to produce joints at top of framing systems that prevent axial loading of finished assemblies. Provide gap between top of stud and track as indicated on Drawings. Do not fasten the top of the studs or sheathing material to the deflection track.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 - 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.

5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
 6. Curved Partitions:
 - a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
 - b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of no fewer than two studs at ends of arcs, place studs 6 inches o.c.
- E. Direct Furring:
1. Screw to wood framing.
 2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
- F. Z-Shaped Furring Members:
1. Erect insulation, specified in Section 072100 "Thermal Insulation," vertically and hold in place with Z-shaped furring members spaced 24 inches o.c.
 2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
 3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches from corner and cut insulation to fit.
- G. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Interior gypsum board.
2. Tile backing panels.

B. Related Requirements:

1. Section 092216 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.
2. Section 093013 "Ceramic Tiling" for cementitious backer units installed as substrates for ceramic tile.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Gypsum board, type X.
2. Gypsum ceiling board.
3. Moisture- and mold-resistant gypsum board.
4. Cementitious backer units.
5. Interior trim.
6. Exterior trim.
7. Joint tape.
8. Joint compound for interior gypsum board.
9. Joint compound for tile backing panels.
10. Laminating adhesive.
11. Steel drill screws.
12. Sound attenuation blankets.
13. Acoustical joint sealant.

1.4 QUALITY ASSURANCE

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 GYPSUM BOARD

- A. Gypsum Board, Type X: ASTM C 1396/C 1396M.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CertainTeed Corp.; Type X.
 - b. National Gypsum Company; Gold Bond Fire-Shield.
 - c. USG Corporation; Firecode Core.

2. Thickness: 5/8 inch.
3. Long Edges: Tapered.

B. Gypsum Ceiling Board: ASTM C 1396/C 1396M.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CertainTeed Corp.; Interior Ceiling.
 - b. National Gypsum Company; High Strength Ceiling Board.
 - c. USG Corporation; Sag-Resistant.
2. Thickness: 1/2 inch.
3. Long Edges: Tapered.

C. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CertainTeed Corp.; ProRoc Moisture & Mold Resistant Type X.
 - b. National Gypsum Company; Gold Bond XP Fire-Shield.
 - c. USG Corporation; Mold Tough Freecode Core.
2. Core: 5/8 inch, Type X.
3. Long Edges: Tapered.
4. Mold Resistance: ASTM D 3273, score of 10.

2.4 TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or 1325, with manufacturer's standard edges.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Custom Building Products; Wonderboard.
 - b. FinPan, Inc.; Util-A-Crete Concrete Backer Board.
 - c. USG Corporation; DUROCK Cement Board.
2. Thickness: 1/2 inch.
3. Mold Resistance: ASTM D 3273, score of 10.

2.5 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.

2. Shapes:
 - a. Cornerbead.
 - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - c. L-Bead: L-shaped; exposed long flange receives joint compound.
 - d. Expansion (control) joint.

2.6 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 1. Interior Gypsum Board: Paper.
 2. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
 5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.
- D. Joint Compound for Tile Backing Panels:
 1. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.7 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.
 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

- D. Sound-Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 - 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- E. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Grabber Construction Products; Acoustical Sealant GSC
 - b. Pecora Corporation; AC-20 FTR.
 - c. USG Corporation; SHEETROCK Acoustical Sealant

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

3.2 PRE-ENCLOSURE REVIEW

- A. Notify Architect prior to applying panels to allow observation of framing installation, including supplementary framing and blocking.

3.3 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 2. Fit gypsum panels around ducts, pipes, and conduits.
 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.
- J. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
- K. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.
1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 3. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically.

3.4 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:

1. Wallboard Type: Vertical, All surfaces unless otherwise indicated.
2. Type X: As indicated on Drawings and Where required for fire-resistance-rated assembly.
3. Ceiling Type: Ceiling surfaces.
4. Mold-Resistant Type: As indicated on Drawings.

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
3. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring member.
4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. On Z-shaped furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
4. Fastening Methods: Fasten base layers [and face layers separately to supports with screws.

- D. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written instructions and temporarily brace or fasten gypsum panels until fastening adhesive has set.

3.5 APPLYING TILE BACKING PANELS

- A. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.

- B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.6 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners, unless otherwise indicated.
 - 2. LC-Bead: Use at exposed panel edges.
 - 3. L-Bead: Use where indicated.

3.7 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 2: Where indicated on Drawings
 - 3. Level 3: Where indicated on Drawings.
 - 4. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."
 - 5. Level 5: Where indicated on Drawings.
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."
- E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.8 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

NOT FOR CONSTRUCTION

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes acoustical panels and exposed suspension systems for interior ceilings.
- B. Related Requirements:
 - 1. Section 079200 "Joint Sealants" for acoustical sealant

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Acoustical panels for acoustical panel ceiling type ACT-1.
 - 2. Acoustical panels for acoustical panel ceiling type ACT-2.
 - 3. Attachment devices.
 - 4. Carrying channels.
 - 5. Wire hangers, braces, and ties.
 - 6. Hold-down clips.
 - 7. Roll-formed, sheet-metal edge moldings and trim.
 - 8. Extruded-aluminum soffit and perimeter moldings and trim.
- B. Samples: For each exposed product and for each color and texture specified, 6 inches in size.
- C. Samples for Initial Selection: For components with factory-applied finishes.
- D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:
 - 1. Acoustical Panels: Set of 6-inch square Samples of each type, color, pattern, and texture.
 - 2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch long samples of each type, finish, and color.
 - 3. Clips: Full-size hold-down clips.

1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
1. Ceiling suspension-system members.
 2. Structural members to which suspension systems will be attached.
 3. Method of attaching hangers to building structure.
 4. Carrying channels or other supplemental support for hanger-wire attachment where conditions do not permit installation of hanger wires at required spacing.
 5. Size and location of initial access modules for acoustical panels.
 6. Items penetrating finished ceiling and ceiling-mounted items including the following:
 - a. Lighting fixtures.
 - b. Diffusers.
 - c. Grilles.
 - d. Speakers.
 - e. Sprinklers.
 - f. Access panels.
 - g. Perimeter moldings.
- B. Qualification Data: For manufacturer and installer.
1. Submit documentation or certification of each requirement.
- C. Product Test Reports: For each acoustical panel ceiling, for tests performed by manufacturer and witnessed by a qualified testing agency.
- D. Evaluation Reports: For each acoustical panel ceiling suspension system from ICC-ES.
- E. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For finishes to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Acoustical Ceiling Units: Full-size panels equal to 2 percent of quantity installed.
 2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.
 3. Hold-Down Clips: Equal to 2 percent of quantity installed.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. Manufacturer member in good standing of CISCA (Ceiling and Interior Systems Construction Association).
2. Single-Source Responsibility: Provide acoustical panel units and grid components by a single manufacturer.

B. Installer Qualifications:

1. At least 10 completed projects of similar size and scope.
2. Installation to meet ASTM C636.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.10 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain each type of acoustical ceiling panel and its supporting suspension system from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 1. Flame-Spread Index: Class A according to ASTM E 1264.
 2. Smoke-Developed Index: 50 or less.

2.3 ACOUSTICAL PANELS; ACT-1

- A. Acoustical Panel Standard: Provide manufacturer's standard panels according to ASTM E 1264 and designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries, Inc., "CALLA", Square Lay-in or comparable product by one of the following:
 - a. USG Interiors, Inc.
 - b. CertainTeed
- B. Classification: Provide panels as follows:
1. Type and Form: TypeIV, Wet-formed mineral fiber with acoustically transparent membrane with factory-applied latex paint; Form 2.
 2. Pattern: as indicated by manufacturer's designation.
- C. Color: White.
- D. Light Reflectance (LR): 0.86.
- E. Ceiling Attenuation Class (CAC): 35.
- F. Noise Reduction Coefficient (NRC): 0.85
- G. Edge/Joint Detail: Square
- H. Thickness: 1 inch.
- I. Modular Size: 24 by 24 inches

2.4 ACOUSTICAL PANELS; ACT-2

- A. Acoustical Panel Standard: Provide manufacturer's standard panels according to ASTM E 1264 and designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries, Inc., "LYRA PB", Square Lay-in or comparable product by one of the following:
 - a. USG Interiors, Inc.
 - b. CertainTeed
- B. Classification: Provide panels as follows:
1. Type and Form: TypeXII, fiberglass with acoustically transparent membrane with factory-applied latex paint; Form 2.
 2. Pattern: as indicated by manufacturer's designation.

- C. Color: White.
- D. Light Reflectance (LR): 0.88.
- E. Ceiling Attenuation Class (CAC): N/A.
- F. Noise Reduction Coefficient (NRC): 0.95.
- G. Edge/Joint Detail: Square
- H. Thickness: 3/4 inch.
- I. Size: Field Panels: 24" x 72", Technical Panels: 6" x 72".

2.5 METAL SUSPENSION SYSTEM FOR; ACT-1 and ACT-2

- A. Metal Suspension-System Standard: Provide manufacturer's standard, direct-hung, metal suspension system and accessories according to ASTM C 635/C 635M and designated by type, structural classification, and finish indicated.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries, Inc., "Prelude XL 15/16" Suspension System", or comparable product by one of the following:
 - a. USG Interiors, Inc.
 - b. CertainTeed Ceilings
 - c. Chicago Metallic Corporation
- B. Wide-Face, Capped, Double Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized, G30 coating designation; with prefinished 15/16-inch wide metal caps on flanges.
 - 1. Structural Classification: Intermediate-duty system.
 - 2. End Condition of Cross Runners: Override (stepped) or butt-edge type.
 - 3. Face Design: Flat, flush.
 - 4. Cap Material: Cold-rolled steel.
 - 5. Cap Finish: Painted white.

2.6 ACCESSORIES

- A. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated.
 - 1. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing according to ASTM E 488/E 488M or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.

- a. Type: Cast-in-place, Postinstalled expansion, Postinstalled bonded anchors.
 - b. Corrosion Protection: Carbon-steel components zinc plated according to ASTM B 633, Class SC 1 (mild) service condition.
2. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing according to ASTM E 1190, conducted by a qualified testing and inspecting agency.
- B. Wire Hangers, Braces, and Ties: Provide wires as follows:
1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 2. Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.106-inch diameter wire.
- C. Hold-Down Clips: Manufacturer's standard hold-down clips.

2.7 METAL EDGE MOLDINGS AND TRIM

- A. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.
1. Edge moldings shall fit acoustical panel edge details and suspension systems indicated and match width and configuration of exposed runners unless otherwise indicated.
 2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
- B. Extruded-Aluminum Edge Moldings and Trim: Where indicated, provide manufacturer's extruded-aluminum edge moldings and trim of profile indicated or referenced by manufacturer's designations, including splice plates, corner pieces, and attachment and other clips, complying with seismic design requirements.
1. Baked-Enamel or Powder-Coat Finish: Minimum dry film thickness of 1.5 mils. Comply with ASTM C 635/C 635M and coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.
- B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
- B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION

- A. Install acoustical panel ceilings according to ASTM C 636/C 636M, and manufacturer's written instructions.
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 - 3. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 - 4. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
 - 5. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 - 6. Do not attach hangers to steel deck tabs.

7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 8. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
 9. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 2. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends. Miter corners accurately and connect securely.
 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- F. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide precise fit.
1. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension-system runners and moldings.
 2. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
 3. For reveal-edged panels on suspension-system members with box-shaped flanges, install panels with reveal surfaces in firm contact with suspension-system surfaces and panel faces flush with bottom face of runners.
 4. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
 5. Install hold-down clips; space according to panel manufacturer's written instructions unless otherwise indicated.
 - a. Hold-Down Clips: Space 24 inches o.c. on all cross runners.

3.4 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
1. Periodic inspection during the installation of suspended ceiling grids according to ASCE/SEI 7.

3.5 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
- B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

NOT FOR CONSTRUCTION

SECTION 095426 LINEAR WOOD WALL AND CEILING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes:

1. Concealed suspension system for Wood Grille ceiling panels.
2. Wood Grille ceiling panels for concealed suspension system.
3. Wood Grille ceiling panels for wall applications.
4. Trim and accessories.
5. Acoustical pads to lay above ceiling panels.

B. Related Requirements:

1. Section 095113 Acoustical Panel Ceilings
2. Division 15 – “Mechanical” for work to be coordinated with ceiling
3. Division 16 – “Electrical” for work to be coordinated with ceiling

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference Conduct conference at Project site.

1.4 COORDINATION

- A. Coordinate layout and installation of linear wood wall and ceiling panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: The installer must be a firm with a minimum of two (2) years of successful experience in installation of wood wall and ceiling systems of similar requirements to this project. The installer must be acceptable to the architect, manufacturer, and owner's representative.
- B. Environmental Standards: When required the wood wall and ceiling systems shall originate from well managed forests as certified by accredited and recognized industry certifying organizations.

- C. Single-Source Responsibility for wood wall and ceiling systems: Obtain each type of Wood Grille wall and ceiling panels from a single fabricator, with in-house Shop Drawing capabilities, in-house assembly and finishing capabilities, and with resources to provide products of consistent quality in appearance and physical properties without delaying the project.
- D. Single-Source Responsibility for Suspension System: Obtain each type of suspension system from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying project.

1.6 PROJECT CONDITIONS

- A. Space Enclosure and Environmental Limitations: Do not install wood panel wall and ceilings systems until spaces are enclosed and weatherproof, wet-work in spaces is completed and dry, work above ceilings is complete, and ambient temperature and humidity conditions are being maintained at the levels indicated for Project when occupied for its intended use.

1.7 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For verification of each type of exposed finish required, prepared on samples of size indicated below. Where finishes involve normal color and texture variations, include sample sets showing the range of variations expected.
 - 1. 12" x 18" samples of each panel type, pattern, and color.
 - 2. 12" x 12" sample of acoustic panels encapsulated with black pvc.

1.8 INFORMATIONAL SUBMITTALS

- A. Shop Drawings: Shall show Panel Grille lengths and placement, and any other details necessary for proper installation.
- B. Coordination Drawing: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Ceiling suspension-system members.
 - 2. Structural members to which suspension systems will be attached.
 - 3. Method of attaching hangers to building structure.
 - 4. Carrying channels or other supplemental support for hanger-wire attachment where conditions do not permit installation of hanger wires at required spacing.
 - 5. Items penetrating finished ceiling and ceiling-mounted items including the following:
 - a. Lighting fixtures.
 - b. Diffusers.
 - c. Grilles.
 - d. Speakers.
 - e. Sprinklers.
 - f. Access panels.
 - g. Perimeter moldings.

- C. Qualification Data: For manufacturer and installer.
 - 1. Submit documentation or certification of each requirement.
- D. Evaluation Reports: For each acoustical panel ceiling suspension system from ICC-ES.
- E. Field quality-control reports.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Delivery & Unloading: Coordinate crate sizes, weights, unloading options, and delivery schedule with manufacturer prior to fabrication. Deliver wood panels and suspension system components to Project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other mistreatment.
- B. Acclimatization: Before installing wood panels, permit them to reach room temperature and a stabilized moisture content (at least 72 hours) per AWI standards.
- C. Handling: Handle Wood Grille wall and ceiling panels carefully to avoid chipping edges or damaging units in any way.
- D. Protection:
 - 1. Personnel: Follow good safety and industrial hygiene practices during handling and installing of all products and systems, with personnel to take necessary precautions and wear appropriate protective equipment as needed. Read related literature for important information on products before installation. Contractor to be solely responsible for all personal safety issues during and subsequent to installation; architect, specifier, owner, and manufacturer will rely on contractor's performance in such regard.
 - 2. Existing completed work: Protect completed work above suspension system from damage during installation of suspension system components.

1.10 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish Extra Materials: Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents.
 - 1. Wood Grille wall and ceiling panels: Furnish quantity of full-size units equal to 2.0 percent of amount installed.
 - 2. Suspension System Components: Furnish quantity of each component equal to 2.0 percent of amount installed.

1.11 WARRANTIES

- A. Warranties: Provide owner with a (1) year warranty for material and workmanship on all installed products.
- B. Manufacturers: All materials, wood wall systems, wood ceiling systems and grid, shall be warranted for (1) one year for material and workmanship.

- C. Installer: All work shall be warranted for (1) year from final acceptance of completed work.

PART 2 - PRODUCT

2.1 WOOD GRILLE CEILING PANELS AND SUSPENSION SYSTEM

A. General.

1. Basis-of-Design Product: Subject to compliance with requirements, provide 9Wood, Inc. Wood Grille, Series 1000, with wood panels; 1100 Cross Piece Backer, SKU 1113 or comparable product by one of the following:

a. Rulon International

B. Wood Panels

1. 1100 Cross Piece Backer, SKU 1113
- a. Species: Hemlock
 - b. Member Size: 3/4" x 2 1/4"
 - c. Edge Profile: Square
 - d. Members/LF: 7 Members/LF
 - e. Assembly Style: Cross Piece Backer
 - f. Panel Sizes: —
 - g. Fire Rating: n/a
 - h. Reveal Scrim: —

C. Metal Suspension Systems

1. Metal T-Grid Suspension System: Provide standard interior Metal Heavy Duty 15/16" x 1 1/2" suspension T-Grid system using Main Runners, Cross-tees, Wall Angle or Shadow Moldings of type, structural classifications, and black finishes indicated and that comply with applicable ASTM C 635 requirements.
2. Attachment Devices: Size for 3 times the design load indicated in ASTM C 635, Table 1, Direct Hang unless otherwise indicated.
3. Wire, Braces, Ties, Hanger Rods, Flat Hangers and Angle Hangers: Provide wires, rods and hangers that comply with applicable ASTM specifications.

2.2 WOOD GRILLE WALL PANELS

A. General.

1. Basis-of-Design Product: Subject to compliance with requirements, provide 9Wood, Inc. 2100 Panelized Linear, with wood panels; 2100 Panelized Linear, SKU 2114-3 or comparable product by one of the following:

a. Rulon International

B. Wood Panels

1. 2100 Panelized Linear, SKU 2114-3
 - a. Species: Hemlock
 - b. Member Size: 3/4" x 3 1/4"
 - c. Edge Profile: Square
 - d. Members/LF: 3 Members/LF
 - e. Assembly Style: Cross Piece Backer
 - f. Panel Sizes: —
 - g. Fire Rating: n/a
 - h. Reveal Scrim: —

2.3 ENCAPSULATED ACOUSTICAL CONTROL PADS

A. General.

1. Basis-of-Design Product: Subject to compliance with requirements, provide CMA, Inc. Encapsulated Acoustical Control Pads or comparable product by one of the following:
 - a. MBI, Shadow-Coustic Pads

B. Materials

1. Panels shall be sized as shown on drawings. Maximum size shall be 4'-0" x 8'-0".
2. Panels shall be constructed of 1.5 pcf fiber glass with a 2" thickness.
3. NRC Value of 0.90 or greater per ASTM C 42.
4. Panels shall be fully encapsulated and sealed in low glass black PVC that is inert to moisture, common chemicals and resistant to mold and mildew.
5. Mounting shall be lay-in above the specified linear wood ceiling system.
6. The panel core shall be dimensionally stable and resistant to fungi, bacteria and mold growth as per ASTM C 565.
7. Fire Rating: Shall meet class A per ASTM E84, 25/0/50.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. General: Examine substrates and structural framing to which ceilings attach or abut, with installer present, for compliance with requirements specified in this and other sections that affect wall and ceiling installation and anchorage. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Coordination: Furnish layouts for cast-in-place anchors, clips, and other ceiling anchors whose installation is specified in other Sections.

- B. Layout: Measure each ceiling area and establish the layout of Wood Grille Panel to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and conform to the layout shown on reflected ceiling plans in accordance with wood wall and ceiling manufacturer's approved Shop Drawings.

3.3 INSTALLATION

- A. General: Install to comply with manufacturer's instructions and CISCA "Ceiling Systems Handbook."
- B. Attachments: Suspend ceiling hangers from building's structural members per manufacturer's instructions and in compliance with all local codes and regulations.
- C. Installation of Metal T-Bar Grid: Install, align, brace, tie-off, mount, handle interferences, and space suspension T-Grid in accordance with suspension manufacturer's instructions and in compliance with all local codes and regulations.
- D. Install Wood Grille ceiling panels in accordance with manufacturer's installation instructions and in compliance with all local codes and regulations. Install with undamaged edges and fitted accurately to suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit, as required.
- E. Suspension Runners: Install suspension system runners so they are square and securely interlocked with one another. Install number and use on-center spacing per wood ceiling manufacturer's instructions, as indicated on approved Shop Drawings and in compliance with all local codes.
- F. Attachment: Panel Grilles shall be attached to the framing system. Woodbacked Panel Grilles shall be attached by screwing or nailing through the woodbacker into contractor-installed wall furring. If panels are not woodbacked, the wood strips on both sides of the interconnecting male-to-female dowel connection are to be attached to the framing members.
- G. Perimeters: The Panel Grilles shall be manufactured to allow for a standard 1" reveal between Panel Grille bays.

3.4 ADJUSTMENT, CLEANING, AND REPAIR

- A. General: Clean exposed wood surfaces of Wood Grille wall and ceiling panels. Comply with manufacturer's instructions for cleaning and touchup of minor finish damage. Remove and replace wood ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.
- B. The contractor shall make final adjustments to level or contours.
- C. Upon completion of wall installation, all Panel Grilles and borders shall be cleaned free of dirt, dust, grease, oils, and fingerprints.
- D. All work which cannot be successfully cleaned or repaired, shall be removed and replaced.

3.5 INSPECTION

- A. Upon completion of wall and ceiling systems installation, the owner's representative shall inspect all finished surfaces to ensure that work has been performed in a manner satisfactory to the owner. Any deficiencies in the installed wall and ceiling systems shall be corrected by the contractor at no additional cost to the owner, or to the wall manufacturer.

END OF SECTION 095426

NOT FOR CONSTRUCTION

SECTION 101100 - VISUAL DISPLAY UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Tackboards
 - 2. Whiteboards/Markerboards

1.3 DEFINITIONS

- A. Tackboard: Framed or unframed, tackable, visual display board assembly.
- B. Visual Display Board Assembly: Visual display surface that is factory fabricated into composite panel form, either with or without a perimeter frame; includes chalkboards, whiteboards/markerboards, and tackboard.
- C. Visual Display Surface: Surfaces that are used to convey information visually, including surfaces of chalkboards, whiteboards/markerboards, tackboards, and surfacing materials that are not fabricated into composite panel form but are applied directly to walls.

1.4 PREINSTALLATION MEETINGS

- A. Pre-installation Conference: Conduct conference at **Project site**.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, and accessories for visual display units.
- B. Shop Drawings: For visual display units.
 - 1. Include plans, elevations, sections, details, and attachment to other work.
 - 2. Show locations of panel joints. **Show locations of field-assembled joints for factory-fabricated units too large to ship in one piece.**
 - 3. Include sections of typical trim members.

- C. Samples for Initial Selection: For each type of visual display unit indicated, for units with factory-applied color finishes, and as follows:
 - 1. Samples of facings for each visual display panel type, indicating color and texture.
 - 2. Fabric swatches of fabric facings for tackboards.
- D. Samples **for Verification**: For each type of visual display unit indicated.
 - 1. Visual Display Panel: Not less than **8-1/2 by 11 inches**, with facing, core, and backing indicated for final Work. Include one panel for each type, color, and texture required.
 - 2. Trim: **6-inch** long sections of each trim profile.
 - 3. Display Rail: **6-inch** long section of each type.
- E. Product Schedule: For visual display units. **Use same designations indicated on Drawings.**

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for surface-burning characteristics of tackboards.
- C. Sample Warranties: For special warranties.

1.7 CLOSEOUT SUBMITTALS

- A. **Operation and Maintenance Data**: For visual display units to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. **Installer Qualification**: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver factory-fabricated visual display units completely assembled in one piece. If dimensions exceed maximum manufactured unit size, or if unit size is impracticable to ship in one piece, provide two or more pieces with joints in locations indicated on approved Shop Drawings.

1.10 PROJECT CONDITIONS

- A. **Environmental Limitations**: Do not deliver or install visual display units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

- B. Field Measurements: Verify actual dimensions of construction contiguous with visual display units by field measurements before fabrication.
 - 1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.11 WARRANTY

- A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Surfaces lose original writing and erasing qualities.
 - b. Surfaces exhibit crazing, cracking, or flaking.
 - 2. Warranty Period: **50** years from date of Substantial Completion.
 - 3. Warranty Period: Life of the building.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain each type of visual display unit from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame Spread Index: **25** or less.
 - 2. Smoke-Developed Index: **450** or less.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 MATERIALS, GENERAL

- A. Porcelain-Enamel Face Sheet: Manufacturer's standard steel sheet with porcelain-enamel coating fused to steel; uncoated thickness indicated.
 - 1. Manufacturers: For convenience specifications and details are based on Claridge Products and Equipments, Inc. Harrison Arkansas, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. PolyVision Corporation; a Steelcase company.
 - b. Best-Rite Manufacturing.
2. Matte Finish: Low reflective; chalk wipes clean with dry cloth or standard eraser.
 3. Gloss Finish: Gloss as indicated; dry-erase markers wipe clean with dry cloth or standard eraser.

B. Vinyl Fabric: Mildew resistant, washable, complying with FS CCC-W-408D, Type II; weighing not less than 20 oz./sq. yd.; with surface-burning characteristics indicated.

C. Polyester Fabric: Non-directional weave, 100 percent polyester; weighing not less than 16 oz./sq. yd.; with surface-burning characteristics indicated.

D. Hardboard: ANSI A135.4, tempered.

E. Particleboard: ANSI A208.1, Grade M-1., made with binder containing no urea formaldehyde.

F. Fiberboard: ASTM C 208.

G. Extruded Aluminum: ASTM B 221, Alloy 6063.

2.4 WHITEBOARD/MARKERBOARD ASSEMBLIES

A. Porcelain-Enamel Whiteboard/Markerboards: Balanced, high-pressure, factory-laminated whiteboard/markerboard assembly of three-ply construction consisting of backing sheet, core material, and 0.021-inch-thick, porcelain enamel face sheet with **high low** gloss finish.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Claridge Products and Equipment, Inc. Similar to "Vitracite Porcelain Enamel Steel Chalkboards" and "MOD 2 - Vitracite Porcelain Enamel Steel Chalkboards" or comparable product by one of the following:

- a. Best-Rite Manufacturing.
- b. PolyVision Corporation; a Steelcase company. 500 Stationary series, 710 modular series.

2. Particleboard Core: 3/8 inch thick; with 0.015-inch-thick, aluminum sheet backing.
3. Face Sheet: Min. 24 gauge steel with porcelain enamel finish suitable for use with liquid chalk markers similar to "LCS Liquid Chalk Writing System" by Claridge Products and Equipment Inc
4. Laminating Adhesive: Manufacturer's standard, moisture-resistant thermoplastic type.
5. Board units are to be magnetic.
6. Height: **As indicated on Drawings.**
7. Mounting Method: **Rail support system.**

2.5 TACKBOARD ASSEMBLIES

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Claridge Products and Equipment, Inc., Similar to "Fabricork Vinyl Bulletin Boards" and "MOD-3 Fabricork Vinyl Bulletin Boards" or comparable product by one of the following :
- a. Best-Rite Manufacturing.
 - b. PolyVision Corporation; a Steelcase company.
2. Vinyl-Fabric-Faced Tackboard: 1/4-inch-thick, Type II vinyl-fabric-faced cork sheet factory laminated to 1/4-inch-thick hardboard backing.
 3. Polyester-Fabric-Faced Tackboard: 1/4-inch-thick, polyester-fabric-faced cork sheet factory laminated to 1/4-inch-thick hardboard backing.
 4. Flammability of Vinyl and Cork Materials (ASTM E-84) - Meet or exceed following requirements:
 5. Flame spread less than 25
 6. Smoke developed less than 450
 7. Assembly Weight: 1 lb./sq. ft.
 8. Assembly Thickness: Approximately 1/2-inch.
 9. Tackboard vinyl weight: min. 15 oz.
 10. Color: **As selected by architect from manufacturer's full range of colors.**

2.6 BOARD UNIT ACCESSORIES

- A. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch-thick, extruded aluminum; **of size and shape indicated on Drawings.**
1. Factory-Applied Trim: Manufacturer's standard.
- B. Chalktray: Manufacturer's standard, continuous.
1. Solid Type: Extruded aluminum with ribbed section with screw on chalk trough end enclosures.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Claridge Products and Equipment, Inc.; "No. 262 Chalk Trough".
- C. Map Rail: Provide the following accessories:
1. Integral Display Rail: Continuous and integral with map rail; fabricated from cork approximately 2 inches wide.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Claridge Products and Equipment, Inc.; No. 151 Head Trim Map Rail".
 2. Integral Display Rail: Continuous and integral with map rail; fabricated from cork approximately 2 inches wide.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Claridge Products and Equipment, Inc.; Hang Tight Rail System".

3. End Stops: Located at each end of map rail.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Claridge Products and Equipment, Inc.; No. 74ES”.
4. Map Hooks: Two map hooks for every 48 inches of map rail or fraction thereof.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Claridge Products and Equipment, Inc.; No. 76M Spring Clip Map Hook”.
5. Flag Holder: One for each room.
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Claridge Products and Equipment, Inc.; No.76FH Flag Holder”.

2.7 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.
- B. Baked-Enamel or Powder Coat Finish: AAMA 2603, except with a minimum dry film thickness of **1.5 mils**. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.
- B. Examine roughing-in for electrical power systems to verify actual locations of connections before installation of motorized, sliding visual display units.
- C. Examine walls and partitions for proper preparation and backing for visual display units.

- D. Examine walls and partitions for suitable framing depth where sliding visual display units will be installed.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.
- F. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions for surface preparation.
- B. Clean substrates of substances, such as dirt, mold, and mildew, that could impair the performance of and affect the smooth, finished surfaces of visual display boards.
- C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display units and wall surfaces.
- D. Prepare recesses for sliding visual display units as required by type and size of unit.

3.3 INSTALLATION

- A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings, or if not indicated, at heights indicated below. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.
- B. Factory-Fabricated Visual Display Board Assemblies: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display board assemblies with fasteners at not more than **16 inches** o.c. secure tops and bottoms of boards to walls.
- C. Visual Display Board Assembly Mounting Heights: Install visual display units at mounting heights indicated on Drawings,

3.4 CLEANING AND PROTECTION

- A. Clean visual display units according to manufacturer's written instructions. Attach one removable cleaning instructions label to visual display unit in each room.
- B. Touch up factory-applied finishes to restore damaged or soiled areas.
- C. Cover and protect visual display units after installation and cleaning.

END OF SECTION 101100

SECTION 104416 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Dry-chemical type (ABC)
 - 2. Mounting brackets.
 - 3. Identification.
- B. Product Schedule: For fire extinguishers. Coordinate fire extinguisher schedule with fire protection cabinet schedule to ensure proper fit and function.

1.3 INFORMATIONAL SUBMITTALS

- A. Warranty: Sample of special warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 COORDINATION

- A. Coordinate type and capacity of fire extinguishers with fire-protection cabinets to ensure fit and function.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."
- B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each fire-protection cabinet and mounting bracket indicated.
 - a. Amerex Corporation.
 - b. Ansul Incorporated; Tyco International Ltd.
 - c. Badger Fire Protection; a Kidde company.
 - d. Buckeye Fire Equipment Company.
 - e. Fire End & Croker Corporation.
 - f. J. L. Industries, Inc.; a division of Activar Construction Products Group.
 - g. Larsen's Manufacturing Company.
 - h. Potter Roemer LLC.
 - i. Pyro-Chem; Tyco Safety Products.

Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B, and bar coding for documenting fire-extinguisher location, inspections, maintenance, and recharging.

- B. Multipurpose Dry-Chemical Type in Steel Container (ABC): UL-rated 4-A: 80-B:C, **10-lb** nominal capacity with monoammonium phosphate-based dry chemical in enameled-steel container.
 - 1. Basis-of-Design Product: Fire End & Croker Corporation; Figure No. 4010.

2.3 MOUNTING BRACKETS

- A. Mounting Brackets: Manufacturer's standard galvanized steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or black baked-enamel finish.
- B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.
 - 1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.
 - a. Orientation: Vertical.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fire extinguishers for proper charging and tagging.
 - 1. Remove and replace damaged, defective, or undercharged fire extinguishers.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

3.2 INSTALLATION

- A. Examine fire extinguishers for proper charging and tagging.
 - 1. Remove and replace damaged, defective, or undercharged fire extinguishers.
- B. Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.
 - 1. Mounting Brackets: 40 inches above finished floor to top of fire extinguisher.
- C. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF SECTION 104416